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ABSTRACT

This report details a national survey study of parents, age 54 or younger, living with children under age 18. The study examined parents' physical health status, stress levels and negative feelings, health habits, and access to health care. Findings indicated that one in eight parents reported health problems, with health related to education, income, parent age, marital status, and employment status. Stress levels were higher than physical health problems, with almost half of mothers and more than a third of fathers experiencing a lot of stress in the previous year. Parents without health insurance had the same or lower rates of seeking psychological help than parents with private insurance. One third of mothers and 40 percent of fathers engaged in at least one risky health-related behavior, with risky behavior related to income and education level, and marital status. Fifty-five percent of fathers and 74 percent of mothers reported having a medical check-up within the previous 2 years, with differences found across social and demographic groups. Several indicators suggested inadequate access to health care. This report considers three theoretical perspectives to explain associations between background factors and parental health, (1) stress hypothesis; (2) resource hypothesis; and (3) dysfunctional behavior hypothesis. The report concludes by noting that many parents need to change their health-related behavior to set an example for their children to remain physically and mentally healthy for the crucial task of child rearing. Data tables are appended. Contains 83 references. (Author/KB)

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Setting An Example

The Health, Medical Care, and Health-Related Behavior of American Parents

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Setting An Example:

The Health, Medical Care, and Health-Related Behavior of American Parents

by Nicholas Zill, Ph.D.

Child Trends

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Sylvie Warren of Westat prepared the page layout and integrated the tables and figures into the text. Margaret Hunker provided research assistance, and Mary Overacker typed the tables and constructed many of the figures. Carol Emig of Child Trends designed the public dissemination plan.

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EXECUTIVE SUMMARY

This report takes a neglected perspective on health, focusing on the health of parents who are raising children in America today. Health is broadly defined to include parents physical health status, their levels of stress and negative feelings, their health habits, and their access to health care. It concludes that many parents need to change their health-related behavior in order to set an example for their children and to remain physically and mentally healthy for the crucial task of child rearing.

The report also considers a number of recent trends and socioeconomic influences that may affect parent health. It examines the possible effects of increases in the numbers of single-parent families, increases in the proportion of mothers who work outside the home, continuing high rates of poverty among families with children, and the ages of parents raising children.

Drawing on nationally representative survey data collected by the National Center for Health Statistics in the early 1990s, the study focuses on parents who live with children under age 18 who are themselves age 54 or younger. It finds that most parents enjoy good to excellent health, with about one in eight mothers and fathers reporting fair or poor health or having a health problem that limits their activities. Low education, low income and older parents are more likely to be in poorer health, while married parents and employed parents tend to have better health.

Levels of stress are higher than physical health problems. Close to half of all mothers (44 percent) and more than a third of fathers report experiencing a lot of stress during the past two weeks or the previous year. Formerly married parents, whites and native-born parents are more likely to report high levels of stress, as are poor parents. Working mothers experience greater stress than mothers not employed outside the home, but the same is not true of fathers. However, despite their higher stress levels, working mothers report lower levels of other negative feelings than non-employed mothers do.

Negative feelings (such as being sad or upset) are more often reported by parents at lower education and income levels and by young parents, black mothers, and single mothers. Similar results are found for fathers, except that older (over age 50) as well as younger fathers express more depression and upset. Rates of seeking professional help for personal or emotional problems tend to reflect both higher levels of need for such care and differences in the accessibility and acceptability of such care to different groups. Thus, parents without health insurance have the same or lower rates of seeking psychological help than parents with private insurance, despite indications that uninsured parents have greater need for such assistance.

The study examines behaviors that elevate risk levels, such as smoking, drinking heavily, being overweight, getting too little exercise, and driving after drinking. It also looks at good health habits, including use of a seat belt while riding in a car, eating breakfast, rarely snacking between meals, exercising or playing sports regularly, and getting sufficient sleep. One in three mothers and four in ten fathers are found to engage in at least one of the health risk behaviors. Less than half of all parents engage in at least three of the five positive habits. Risky behavior is more common among lower education and lower income parents, and single parents. Parent education and income are positively related to the practice of good health habits. Net of income, those who receive welfare have fewer positive and more negative health behaviors. Married parents who report stress in their lives are less likely to practice positive habits and more likely to engage in negative behaviors. Young parents are less likely to have positive health habits, but they are also less likely

to engage in negative behaviors, once related factors are taken into account.

Immigrants who arrived in the United States within the previous fifteen years enjoy better health and report less stress and fewer negative feelings, compared with immigrants who have lived in this country for a longer time or native-born Americans. They also engage in less risky behavior.

Most U.S. parents report having had a medical check-up within the previous two years. However, only 55 percent of fathers have had such a check-up, compared with 74 percent of mothers. Differences in having had a check-up are found across social and demographic groups, but they are smaller than the differences found in health status, emotional problems, and health-related behavior. Parents without health insurance and the non-welfare poor have the highest rates of inadequate care.

Other indicators also suggest that many parents have inadequate access to health care. Three in ten mothers and four in ten fathers have not had a dental visit in the previous year. One mother in six and one father in three has no regular source of medical care.

Parents without medical insurance and those with Medicaid coverage are in worse health than those with private insurance. They are also more likely to practice risky behavior and less likely to have good health habits. Many parents report that their doctor did not discuss important health topics, such as diet, exercise, and drug use, during their last check-up. However, a majority of doctors did ask the parents about smoking. Insofar as can be ascertained with cross-sectional survey data, there is little evidence that these discussions lead to constructive behavior change.

The report considers three theoretical perspectives that might explain associations between background factors and measures of parental health. The *stress hypothesis* suggests that health outcomes will be poorer for parents who have had stressful life experiences, such as marital disruption. Indeed, health status, feelings of stress, depression or upset, and health behaviors all related to marital status in the expected ways. Married parents who experienced a lot of stress in the previous year were found to be in poorer health as well.

The *resource hypothesis* posits that parents with less education and lower incomes have poorer health, and this association was quite consistently documented across the varied measures of health, stress, negative feelings, health-related behaviors, and access to health care services.

The hypothesis positing a link between *dysfunctional behavior* and both low income and poor health received inconsistent support. Income and education were more consistently related to health. However, among poor parents, those receiving welfare assistance were found to have more negative health-related behaviors.

Based on the broad array of evidence assembled here, the report concludes by calling on parents to set a better example of healthy behavior for their children. It also calls on the public health community to find more effective strategies for encouraging parents to engage in healthful behaviors. Parents have the strongest motivation of any group of adults to change their behavior and preserve their health: they have children to raise.

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INTRODUCTION

Dirty diapers and 3 a.m. feedings. Temper tantrums and inconsolable crying. Rush trips to the emergency room when a child has injured himself. Demands for last-minute help with a book report or science project after the parent has had an exhausting day on the job. Trying to be cheerful and encouraging when a child's team has just suffered a lopsided loss in an endless game of basketball or baseball. Waiting up anxiously for a teenaged son or daughter to come home when he or she has been out driving around with other teenagers.

Being a parent and rearing children is a difficult and demanding job in the best of circumstances. But American society has been changing in a number of ways that appear to be making the job of parent even more difficult.[1]

Social Changes That Are Making It More Challenging To Be A Parent

Among the changes making parenthood more challenging are the enormous expansion of maternal employment since the 1950s, the proliferation of single-parent families and stepfamilies, the growing number of older first-time parents, and an increase in economic inequality between families in the top strata of the income distribution and those in the bottom strata. Let us briefly examine why each of these developments may be making parenthood more difficult.

Maternal employment. Because of economic needs and changed beliefs about appropriate roles for women, employment outside the home is now the norm for mothers, even for those whose youngest child is only an infant or toddler. The majority of families with children no longer practice the traditional division of labor in which the father serves as the primary breadwinner and the mother acts as the primary homemaker and child care provider. In most of today's married-couple families, both mother and father work outside the home and try to manage the responsibilities of supervising and nurturing children while simultaneously satisfying the demands of paid jobs. This often means considerable time pressure and tension between roles, especially for working mothers. A disproportionate share of homemaking and child care obligations still falls on the woman, and quality substitute care is difficult to arrange and subject to frequent change.[2]

Single parenthood. As a result of higher rates of divorce and childbearing outside of marriage, in a substantial minority of today's families, either the father or the mother does not live in the same household as the children. Single parents frequently shoulder most of the tasks involved in childrearing by themselves, while simultaneously holding down a paid job and trying to reestablish their love lives. It is common for single parents to experience conflict between these competing goals, as well as lingering anger over the breakup of their marriages. Remarriage to a stepparent may help financially, but it typically does not resolve the emotional and disciplinary problems with which single parents must deal. Remarriage may even create new sets of tensions and difficulties.[3]

Older parents. Fathers and mothers who have children in their late thirties and forties, whether they are having their first birth or their fifth birth, are inevitably older when their children grow up. Indeed, they may be in their fifties or even in their sixties by the time their children leave the teen years. A potential difficulty with having babies at older ages is that energy and stamina tend to decrease and health problems tend to increase with advancing age. To be sure, older parents usually have considerable advantages

over young parents, namely, more education, higher incomes, and marriages that are more likely to last than those begun when the partners are in their teens or early twenties. In addition, those who bear children in their teens or early twenties tend to have less education and lower incomes and are less likely to be in stable marriages. Hence, older parents typically enjoy socioeconomic advantages while younger parents generally enjoy greater physical vigor. How these countervailing factors trade off in influencing health behaviors, stress, access to health care, and the health status of parents is another question that will be addressed throughout the report.[4]

Increasing inequality. A sizable minority of American parents are rearing children without adequate financial resources to care for those children: about one-fifth of U.S. children below the age of eighteen live in families with incomes below the official poverty level.[5] Although the United States has experienced an unprecedented period of economic growth, the benefits of that growth have accrued far more to adults with college education and high-skill occupations and to their children than to adults in relatively low-skill occupations and their offspring. When adjusted for inflation, wage rates have declined for workers with only a high school education or less.

The trends in family living just described have contributed to a widening earnings gap between families in the top fifth and bottom fifth of the U.S. income distribution. Two-parent families in which the parents are older, have high education levels, and are both working full-time have formidable earnings capabilities. This is especially so when they are compared with single-parent, female-headed families in which the mother is young, has only a high school education and limited work experience, and receives little or no help from the father of her children.[6]

Not only do today s low-income parents experience the strain of trying to make ends meet, they often must raise their children in communities where poverty is concentrated and social problems are rampant. These problems include chronic unemployment and multi-generation welfare dependency, alcoholism and drug abuse, vice and crime, run-down housing, bad schools, environmental hazards, and negative peer influences. In the face of such adversities, even exceptionally energetic and conscientious parents can hardly help but feel powerless and frustrated.

What do these changes mean for parental well-being? These are not the only social trends that may be making parenthood more challenging. Indeed, if asked, many people would probably point to a breakdown of the broad consensus about values and the close cooperation that used to exist between families, schools, and other community institutions in instilling standards of conduct in young people as more serious barriers to successful childrearing than the increases in maternal employment, single parents, older parents, and economic inequality. Other changes, such as smaller family sizes and higher average parent education levels, may be making it somewhat easier to be a parent these days. But the four changes discussed above are certainly ones that have had profound effects on the day-to-day lives of most American families with children. They also seem to pose challenges and be sources of uneasiness, if not downright distress, for many families.

What do these changes mean for the health and well-being of American parents? What do they imply for the kind of job today s mothers and fathers are doing as parents? Do many parents feel stressed because of time pressures, competing priorities, or inadequate resources? Are the health problems of older parents getting in the way of fulfilling their childrearing responsibilities? Are parents responding to the stress they feel by engaging in risky behaviors that endanger their own health and that of their children? This study tries to answer these questions.

The Health of Parents and Why It Matters

This study examines the health of American parents, the women and men who are living with and caring for our nation's children. It describes the general health status of different groups of mothers and fathers, as well as their emotional well-being. It provides information about the frequency of various health-related behaviors in parents, including risky behaviors like smoking and heavy drinking, and protective behaviors like using seatbelts when driving and getting regular exercise. It examines the use of medical care by different groups of parents and the extent to which the medical care parents receive encourages them to give up bad habits and practice healthy ones.

The investigation uses data on parent health to test predictions from three theories about the influence of environmental factors on human health and behavior: *stress theory*; *economic resources and opportunity theory*; and *dysfunctional behavior theory*. (These theories are explained below.) The study is based on new analyses of data from two large surveys of the health of the U.S. population that were conducted by the National Center for Health Statistics in the early 1990s.[7]

Although there have been many studies on the health and well-being of American children in recent years, there have been few if any studies that have focused specifically on the health and health-related behavior of the mothers and fathers who are raising those children.[8] The health of parents matters for several reasons:

- parents make up a sizable segment of the U.S. population;
- the health of parents can affect the health of their children;
- the health of parents has economic consequences for their families, for private companies that employ them, and for the taxpaying public; and,
- ill health in parents, especially chronic health problems, can be a source of family stress, and may lead to family disruption.

Parents Make Up a Sizable Segment of the Population

People who are currently engaged in being parents constitute a sizable and important segment of the overall U.S. population. The health profiles presented in this report applied to about 35 million women and 28 million men. Of course, many more people—indeed, most people—have been or will be parents for some period of their adult lives.

The segment of the adult population that is actively engaged in parenthood at a given point in time is smaller than it was in the past, due to the demographic trends discussed above. More people are delaying parenthood and are having fewer total children than people had in the past; more people (especially men) are living apart from their children because of divorce or unmarried parenting; and more adults are living for longer periods after their children have grown and left the household.[9] As a result of these trends, the proportion of all households in the U.S. that contained parents living with their own children under 18 fell from 50 percent in 1955 to 34 percent in 1997.[10] The proportion of households containing married couples living with their own children fell from 40 percent in 1970 to less than 25 percent in 1997.[11]

During the 1990s, however, as a result of increased immigration and the "echo" of the post-World War II Baby Boom, the number of households with children or youth under 18 leveled off and even increased slightly. Counting people living not only with their own children, but with related children such as grandchildren and nephews or nieces, there were 36.8 million households with persons under 18 as of 1996, representing 37 percent of all households in the U.S.[12] Most of these households contained at least one adult who was performing the role of

parent or parent-surrogate, according to the definition of parent used in this report.

The Health of Parents Can Affect the Health of Children

A second reason why the health of U.S. parents matters is because these are the people who are rearing the next generation of American citizens and workers. The state of their health can affect how well they carry out this vital task. Being a parent, especially of young children, is a demanding and tiring job in the best of circumstances. It can become overwhelming when the parent's energy, attentiveness, patience, and good-humor are diminished by illness, injury, or emotional disorder. Recent studies have found elevated levels of behavior and learning problems in children whose parents suffer from chronic diseases, depression, or alcoholism.[13]

In addition, the health-related behavior of parents helps determine whether their children will experience illness or injury, as when a mother or father smokes and leaves cigarette lighters around where children can play with them. Parents who do this expose their children to the deleterious respiratory effects of breathing second-hand smoke and increase the risk of a damaging fire.[14]

The health-related behavior of parents is important because of the example it sets for their daughters and sons. When parents follow a moderate and healthful lifestyle, it is more likely that their progeny will follow suit. Conversely, when parents engage in risky behaviors, it raises the chances that their offspring will become involved in the same behaviors when they become adolescents or young adults. For example, cigarette smoking among youth whose parents are smokers occurs at two to four times the rate found among youth whose parents are not smokers.[15]

There is dispute over the question of what causal mechanism lies behind these higher odds. Some researchers contend that young people begin smoking mainly because of peer influence, and the higher rate of smoking among offspring of smokers is attributable not to family environmental influences, but to genetic differences in propensity for risky behavior or susceptibility to nicotine addiction.[16] There are data from twin studies, an adoption study, and a family study that lend support to the genetic argument.[17] Nonetheless, in the absence of definitive evidence, it seems reasonable to believe that both environmental and genetic processes are at work in the intergenerational transmission of health-related behavior. Even if most early smoking is attributable to peer influence, parents who are themselves smokers are obviously in a much weaker position with respect to keeping their children from making friends with peers who smoke.

The Health of Parents Has Economic Consequences

The health of U.S. parents matters for economic reasons as well. Many families are able to maintain their accustomed standards of living only by having both parents employed or by having a single parent work full-time all year round. Health difficulties among parents can mean time lost from work, foregone income, high out-of-pocket expenditures for required medical care, depleted savings, a reduced standard of living, even welfare dependency. For employers, the ill health of parents who are employees can mean reduced productivity, increased labor costs, and higher health insurance premiums. For taxpayers, it can mean increased government expenditures for income support programs and publicly-funded health services.[18]

Ill Health in Parents is a Source of Family Stress

A final reason why the health of parents matters is because ill health in a parent (or other family member) is a source of family stress. The daily burden of caring for a chronically sick or disabled family member can become a source of friction and arguments between husband and wife or

between parents and other family members. These disagreements may lead in turn to impaired family functioning or even family disruption.

Health Care and Welfare Changes That Exacerbate the Consequences of Parental Health Problems

Why should the health of parents be an important concern? Are not these mostly women and men in the prime years of their adult lives, when serious diseases and impairments are relatively rare? Although this is true, even in the prime years of adulthood, the fraction of women and men who are affected by significant physical or emotional conditions is hardly inconsequential. And, as the results of this study demonstrate, the number of American parents who engage in risky health behaviors or fail to practice preventive habits is distressingly large. The demographic trends reviewed above may be working to increase the frequency of physical or mental health problems in parents. In addition, recent changes in health care and welfare policy may be working to make the consequences of parental health problems more severe for the families involved. In the health care arena, the changes in question include the following:

- increases in the number of parents (and other adults) who lack health insurance coverage, as competitive pressures lead companies to slash fringe benefits and the government fails to enact a program to ensure some form of health care coverage for all Americans;
- the imposition of tighter limits on the availability and duration of certain kinds of care, such as psychotherapy and substance abuse treatment, as a consequence of the rapid move from fee-for-service to cost-conscious managed care systems; and,
- the transformation of the major health care program for the poor, Medicaid, into a managed care system in many states, in the hope of reducing costs by placing more emphasis on preventive care and health promotion.
- With respect to federal and state welfare policies, relevant changes include:
- the imposition of time limits and work requirements on welfare beneficiaries, including at least some of those with significant health problems;
- the establishment of behavior-related rules for welfare recipients in many states, requiring recipients not only to look for work or get job training, but also to conform to explicit standards of conduct with respect to such things as having a regular source of health care, getting children immunized, or making sure their school-aged children attend school regularly; and,
- the possible loss of "safety net" income and services by parents who do not conform to the new welfare requirements, or who exceed statutory time limits without securing stable employment and child support.

Research Strategy

The research strategy employed in this report is to make comparisons between selected groups of parents and to test hypotheses from three theories that may help account for variations in health status, health behavior, and health care across different groups of parents. These are stress, economic resource, and dysfunctional behavior theories.

Comparisons Between Selected Groups of Parents

The research strategy employed to reveal whether the four demographic trends reviewed above are working to increase stress and health problems among U.S. parents was to examine variations in

health status and health-related behavior across selected groups of parents. The relevant contrasts were:

- older parents (those in their late thirties or forties) versus younger parents;
- employed parents versus those not working outside the home;
- parents who had been separated or divorced as opposed to those who were married, and parents who had never married versus those who were married; and,
- parents in families whose incomes were at or below the poverty line versus parents in families whose incomes were above poverty levels.

In addition, the following comparisons illuminated possible effects of changing health care policy and welfare policy:

- parents covered by private health insurance versus those not covered;
- parents receiving health care under Medicaid versus those not covered; and,
- parents receiving welfare payments versus those who were at or below the poverty line but not getting welfare.

In making all of these contrasts, multiple logistic regression methods were used to statistically control for other disparities between the parent groups, such as disparities in age, education level, or race and Hispanic origin. These disparities might be responsible for observed differences in health status, emotional well-being measures, or health-related behavior. Separate comparisons were carried out among mothers and among fathers. (Only parents who resided with one or more children could be included in the contrasts. It was not possible to identify non-residential parents in the survey data base.) Similarities or differences in parental health by gender of the parent can be instructive as to the mechanism or mechanisms by which parental health is affected. Differences between mothers and fathers in levels of general health and emotional well-being, and in the prevalence of specific risky behaviors and preventive habits were also examined. Such differences are inherently interesting and can also tell us something about the processes that help to shape health status and health-related behavior.

Testing Hypotheses from Stress, Economic Resource, and Dysfunctional Behavior Theories

As well as comparing the selected groups enumerated above, the analyses tested several hypotheses derived from three theories about the influence of environmental factors on human health and behavior. The first of these theories was *stress theory*.

Stress. Stress theory posits that people who have been under chronic or severe stress will exhibit poorer general health and more physical and emotional illness than people who have not been under stress. The problems are partly due to detrimental behaviors, like heavy drinking or smoking, that people engage in to alleviate painful feelings they are experiencing. Health effects are also due to accidents and victimization experiences due to impaired cognitive functioning and errors in judgement caused by stress. The stress-related health problems may also be due to direct physiological effects of the stress state.

Stress theory predicts that parents who have experienced considerable stress, such as separated or divorced parents in contrast to stably married parents, should be in poorer health and display more risky behavior. However, stress theory also predicts that married parents who report high levels of stress should show comparable health and behavior differences. The plan was first to verify that parent groups expected to experience more stress actually reported more stress in the survey interviews, and then to test the prediction that these groups would show poorer health and more risky behavior.[19]

Economic resources and opportunity. The second theory relating environmental factors to parent health and behavior was *economic resources and opportunity theory*. This theory holds that people with an abundance of economic and informational resources and ample opportunity for adding to their wealth in the future will be in better health and exhibit more positive health-related behavior than those with meager resources and opportunities. According to the theory, living conditions of people with meager resources are less wholesome than those enjoyed by people with abundant resources. Long-term exposure to these detrimental environments is thought to cause or contribute to differences in health status. People with meager resources also have less access to medical care, especially preventive care, and when they do get care, it tends to be of lower quality than that afforded to more prosperous families. Furthermore, people with limited opportunities are believed to have less motivation for keeping themselves fit for the future. They are more likely to live "like there's no tomorrow."[20]

Resource theory predicts that parents with higher education and income levels will exhibit better health, less risky behavior, and more preventive practices than parents with low education or income levels. These predictions were tested directly and the relative strength of the relationships between education and health status and income and health status were compared. Inasmuch as access to health care is seen as an important mediator of resource-related differences in health status, the theory also predicts that low-income parents who receive government-subsidized health care through Medicaid should be in better health than low-income parents who do not have health insurance coverage. The plan called for examining whether there were coverage-related differences in parent use of medical care and then testing whether low-income parents with access to subsidized care showed better health than low-income parents with less adequate care.

Dysfunctional behavior. Predictions derived from a third, contrasting theory were also tested. The theory was *dysfunctional behavior theory*, sometimes called the *culture of poverty* or *behavioral poverty* perspective. This theory agrees that low-income families are more likely to be in poor health than middle-class families, but holds that maladaptive behavior on the part of the parents leads to both poverty and ill health. The behaviors that lead to poverty include dropping out of high school, engaging in unprotected sexual intercourse, having children young and outside of marriage, and then relying on the state to support the children, rather than supporting them through parental employment and earnings. Because it allows dysfunctional behavior patterns to continue or worsen, long-term welfare dependency is detrimental not only to a parent's sense of responsibility and personal control over her life, but also over health and well-being. This theory makes a prediction opposite to that made by resource theory, namely, that low-income parents on welfare should engage in more negative behavior and be in poorer health than low-income parents who do not receive welfare, even though the former group has better access to health care and adequate nutrition than the latter group.[21]

The study tested these predictions by comparing the health status, emotional well-being, and behavior of low-income parents who were receiving welfare and Medicaid with those of low-income parents who were not eligible for these government benefits.

Data Source: The National Health Interview Survey

The data bases used to make comparisons and test hypotheses were drawn from the public use files of the National Health Interview Surveys (NHIS) of 1990 and 1991, two large and nationally representative samples of the U.S. population. In particular, most of the information used in this report came from the Health Promotion and Disease Prevention (HPDP) Supplement to the NHIS, an interview designed to be administered to one randomly selected adult in each of the households participating in the overall survey. The HPDP data bases provided

information about parents' general health status, emotional well-being, medical care receipt, and health-related behaviors. They also contained information on what proportions of parents received a health check-up within the last two years, and whether the doctors who gave them these check-ups asked about various health-related behaviors. The purpose of looking at the results of these last inquiries was to get some indication as to the quality of medical care that different groups were receiving, and the extent to which a disease prevention-health promotion orientation was or was not present in the care that different groups received.

The NHIS is a continuing nationwide sample survey in which data are collected through personal household interviews. Information is obtained on personal and demographic characteristics including race and ethnicity by self-reporting or as reported by an informant. Information is also obtained on illnesses, injuries, impairments, chronic conditions, utilization of health resources, and other health topics. For most health topics, data are collected over an entire calendar year.

The sample design of the NHIS follows a multistage probability design that permits a continuous sampling of the civilian noninstitutionalized population residing in the United States. In 1990, the sample consisted of 8,112 segments containing 60,481 assigned households. Of the 48,680 households eligible for interview, 46,476 households (95.5 percent) were actually interviewed, resulting in an overall sample of 119,631 persons. Of the total noninterview rate of 4.5 percent, 2.7 percent was the result of respondent refusal, while the remainder was primarily the result of failure to locate an eligible respondent at home after repeated calls.

The adult subsample responding to the Health Promotion - Disease Prevention Supplement in 1990 consisted of 41,104 persons, of which 23,932 were females, and 17,172 were males. The total response rate for the 1990 HPDP was 84.4 percent.

In the analyses carried out for this report, a subset of the HPDP respondents were determined to be parents under the age of 55 residing with children under the age of 18. This subset consisted of 13,348 persons, of which 8,507 were mothers or mother substitutes, and 4,841 were fathers or father substitutes. The mothers represented 35.5 percent of all the females in the HPDP sample, while the fathers represented 28.2 percent of the HPDP males.

The 1991 NHIS sample was composed of 46,761 households containing 120,032 persons. The total noninterview rate was 4.3 percent, of which 2.7 percent was the result of respondent refusal. The remainer was primarily the result of failure to locate an eligible respondent at home after repeated calls. The adult subsample responding to the HPDP Supplement in 1991 consisted of 43,732 persons, of which 25,396 were females and 18,336 were males. The total response rate for the 1991 HPDP was 89.5 percent.

The subset determined to be parents under the age of 55 residing with children under the age of 18 consisted of 14,041 persons, of which 8,912 were mothers or mother substitutes, and 5,129 were fathers or father substitutes. The mothers represented 35.1 percent of all the females in the HPDP sample, while the fathers represented 28.0 percent of the HPDP males.

Because the HPDP questionnaires were administered to only one adult per household, it was not possible to compare information about the mother and the father *in the same household*. Nor was it possible to develop indicators based on whether *either* parent in a family had a particular health condition or engaged in a specific kind of health-related behavior. Comparisons between mothers and fathers made in this report are based on independent subsamples of female and male parents, all of whom reside in different households.

Reliability of the estimates. Because NHIS estimates are based on a sample of the population, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey and

processing procedures. There are two types of errors possible in an estimate based on a sample survey: sampling and non-sampling errors. The National Center for Health Statistics attempts to keep these types of errors to a minimum by careful sample design and quality control procedures. All contrasts cited in this report have been tested for statistical significance taking these sampling errors into account. Further information about sampling errors and potential sources of non-sampling error may be found in the cited NCHS reports.[22]

Notes to Introduction

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3. Cherlin, A. (1992). *Marriage, divorce, and remarriage*; Norton & Miller (1992). Marriage, divorce, & remarriage in the 1990s.; Bumpass (1990); Zill & Nord (1994), pp. 6-8.

4. The U.S. birth rate to women in their late thirties increased without interruption between 1978, when it was 19 per thousand women, and 1997, when it reached 36 per 1,000. This was an increase of nearly 90 percent. Ventura, Martin, Curtin, & Mathews, 1998, p. 6; Ventura, Anderson, Martin, & Smith, 1998, p. 4.

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Chapter 1

Parents In Poor Health

What should we expect the general health of American parents to be like, given our knowledge of recent public health trends and our theoretical understanding of the factors that shape the health status of various groups in the population? We know that the health of the American population in general is quite good, compared to what it was in the past and compared to the health of people living in less industrialized nations around the globe. Life expectancy has increased for most groups in the population, and death rates for some of the major killer diseases, notably heart disease and stroke, have been going down.[1] Many communicable diseases that killed or crippled people in the past, such as smallpox and polio, have been eradicated or brought under control. Unfortunately, new infectious diseases such as AIDs and Lyme Disease have arisen, and some that seemed to have been mastered, like tuberculosis, have had a resurgence.[2] In addition, the homicide death rate in the U.S. is far higher than in most other industrialized democracies.[3]

Gains as well as setbacks in health status are not equally distributed across all segments of the population. In fact, there continue to be large disparities in the health status of different groups in the population.[4] For instance, members of some racial and ethnic minorities, such as African Americans and Puerto Ricans, have higher death and disease rates than members of the white majority or of other minority groups, such as Japanese or Chinese Americans.[5] Low income areas of large American cities have infant mortality rates and other vital statistics that compare unfavorably with those of Third World nations.

We also know that people's health status tends to deteriorate with age, though more because of the onset of specific diseases and the occurrence of injuries than because of the aging process as such.[6] Parents who are living with children under 18 years of age are themselves mostly young and middle-aged women and men in their late twenties to early forties. (About 80 percent of the mothers and fathers with children under 18 in the NHIS were between 25 and 45 years of age.) Thus, we would expect most of them to be in good to excellent health. At the same time, substantial minorities of the parent population have had less than a high school education, live in low-income families, or come from minority racial or ethnic backgrounds. (In the 1991 NHIS, 17 percent of mothers living with children under 18 had less than a high school education; 24 percent were in families with annual incomes of less than $20,000; and 25 percent were of African- or Hispanic-American backgrounds. The comparable figures for fathers living with children under 18 were 14 percent with less than a high school education, 15 percent with incomes less than $20,000, and 19 percent black or Hispanic.) Thus, although most parents should be in good health, we would also expect substantial variation in parental health and that a sizable minority of parents would be in poor health. These expectations were confirmed by the survey findings.

Research Questions About Parents' General Health

The aims in examining variations in parents' general health status were to assess the impact of the demographic trends and policy changes described in the Introduction, and test predictions derived from stress, resource, and dysfunctional behavior theories. The analyses set out to answer the following specific questions:

- Do older parents (those in their 40s and early 50s) show significantly worse general health than younger parents (those in their late 20s and 30s)? Are the differences, if any, large enough to be practically significant in terms of their performance as parents?
- Do parents with higher levels of income and education display better general health than parents with lower levels of income or education? To what extent do education and income differences help to account for other disparities, such as those between racial and ethnic groups, or across marital statuses?
- Do parents who are married and living with their spouses display better general health than separated or divorced parents, or parents who have never married?
- Do married parents who report high levels of stress show worse general health than married parents who report low stress levels? Is their health status comparable to that of separated or divorced parents?
- How does the health status of employed parents compare with that of parents who are not in the labor force? Does this differ for mothers and fathers?
- Are parents without health insurance coverage in worse health than parents with private health insurance coverage? How does the health status of Medicaid recipients compare with that of parents with private insurance and those without coverage?
- Are poor parents who receive cash welfare and Medicaid benefits in better health than poor parents who do not receive welfare and Medicaid, as resource theory would lead us to predict? Or are welfare recipients actually in worse health than working poor parents, as dysfunctional behavior theory would predict?

Indicators of General Health Status

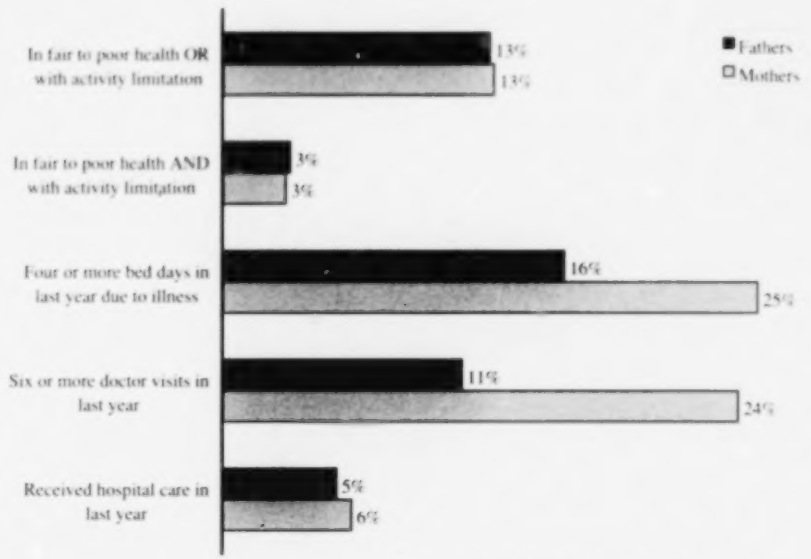
Previous health survey research has found that an effective and easily derived indicator of people's health status may be formed by asking individuals two questions. First, individuals are asked to rate their own health in general as "excellent, very good, good, fair, or poor." Second, they are asked whether "any impairment or health problem" keeps them from working at a job or business (or from doing housework), limits the kind or amount of work (or housework) they can do, or limits them in any other way. Responses to these two questions are combined to differentiate those who are in good to excellent health with no activity limitation from those who are in fair to poor health and/or have a health-related limitation of activity.

People who say they are in fair to poor health *or* have an activity limitation have been found to have 4 times the number of restricted-activity days due to health problems, twice the number of physician contacts, and five times the number of hospital days per year, as people who say they are in good to excellent health and have no health-related limitations. Those who are in fair to poor health *and* have activity limitations have 10 times the number of restricted-activity days, 4 times the number of doctor visits, and 16 times the number of hospital days per year as the good to excellent health/not limited group.[7] Self-assessed health status has also been found to vary across social groups in ways that parallel group differences in mortality and morbidity, and to be predictive of longevity in prospective studies.[8,9]

One in Eight Parents in Poor Health

When parents in the 1990 National Health Interview Survey were asked these two questions, the majority reported themselves to be in good to excellent health and did *not* have an impairment or health problem that limited their activities. However, one mother in eight (12.6

Figure 1-1. One in eight parents in fair or poor health



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

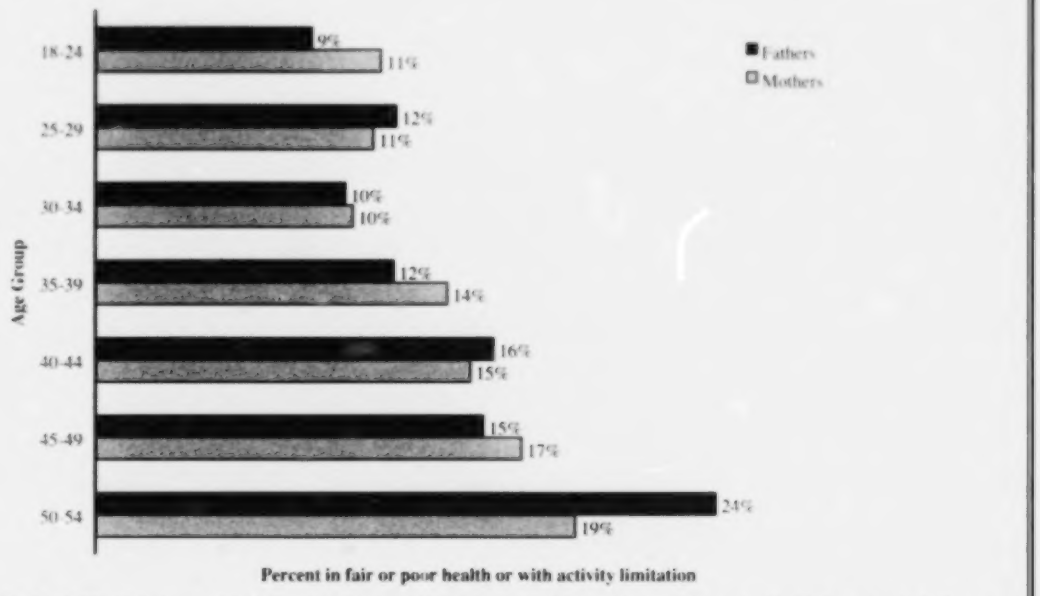
percent) said she was in fair to poor health *or* had a health-related limitation of activities. One mother in thirty (3.0 percent) rated her health as fair to poor *and* had a health-related activity limitation (figure 1-1).

Similar Numbers of Fathers and Mothers in Poor Health

The proportion of fathers in fair or poor health or with a limitation (12.8 percent) was very similar to that for mothers. So was the proportion of fathers with both indications of ill health (3.2 percent). Despite the similarity in general health status, mothers were more likely than fathers to experience short-term disabilities as a result of their illnesses or injuries. Twenty-five percent of mothers, compared with 16 percent of fathers, reported spending four or more days in bed in the last year due to illness. Mothers also received more frequent medical attention for their conditions. Twice as many mothers as fathers—24 percent versus 11 percent—reported six or more doctor visits in the last year. However, when it came to the frequency of receiving hospital care, which is generally more serious, the sexes were again essentially equal: 6 percent of mothers and 5 percent of fathers had received such care in the last year (figure 1-1).

These results are consistent with earlier findings on differences between the sexes in patterns of medical care use. Partly, they reflect differences in the kinds of health conditions that women and men experience and differences in their routine care needs. For example, reproductive health issues and conditions of the genital organs are more common reasons for medical attention among women than men, at least during early and middle adulthood. It also may be the case that women are more susceptible to some short-term illnesses, while men are more susceptible to major, life-threatening conditions, especially heart disease, violence, and non-intentional injuries. A more social, gender-role related difference is that women in our society are more likely to "take care of themselves" when ill and

Figure 1-2. Parents in their 50s twice as likely to be in poor health as those in their 20s



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

more likely to seek medical care, rather than disregarding symptoms until they become too serious to ignore.

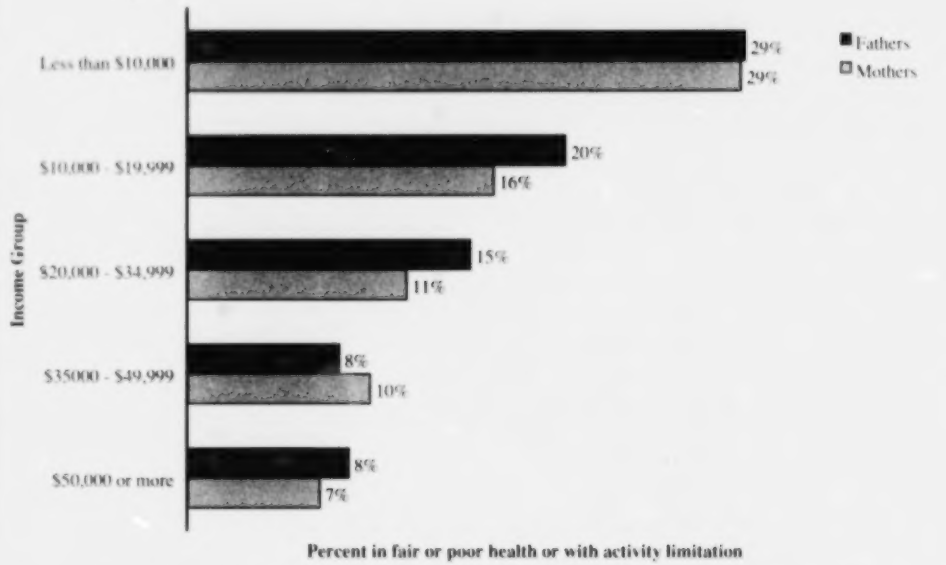
Specific health conditions. What are the specific diseases and impairments that plague or limit American parents? Data from the National Health Interview Survey show that the most common chronic conditions among adults in the 18-44 age range include: respiratory conditions, such as chronic sinusitis, hay fever or other respiratory allergies, and asthma; orthopedic impairments or deformities, especially back problems; high blood pressure; migraine headaches; hearing impairments; arthritis; dermatitis; heart murmurs and other heart rhythm disorders; and diseases of the female genital organs.[10] Mental health problems, especially depression, are also among the more common conditions that affect adults below the age of 45.[11]

Education, Income, and Age Are Major Predictors of Parent Health

The majority of parents in nearly all social groups were in good to excellent health with no activity limitations. However, poor health was much more prevalent in some groups than in others (figures 1-2 through 1-6; appendix table 1). A parent's health status was correlated with his or her age, education level, income, marital status, employment status, health insurance coverage, welfare and poverty status, and race and ethnicity. Specifically:

- Mothers or fathers in their early fifties were nearly twice as likely to be in poor health as mothers or fathers in their late twenties (figure 1-2).

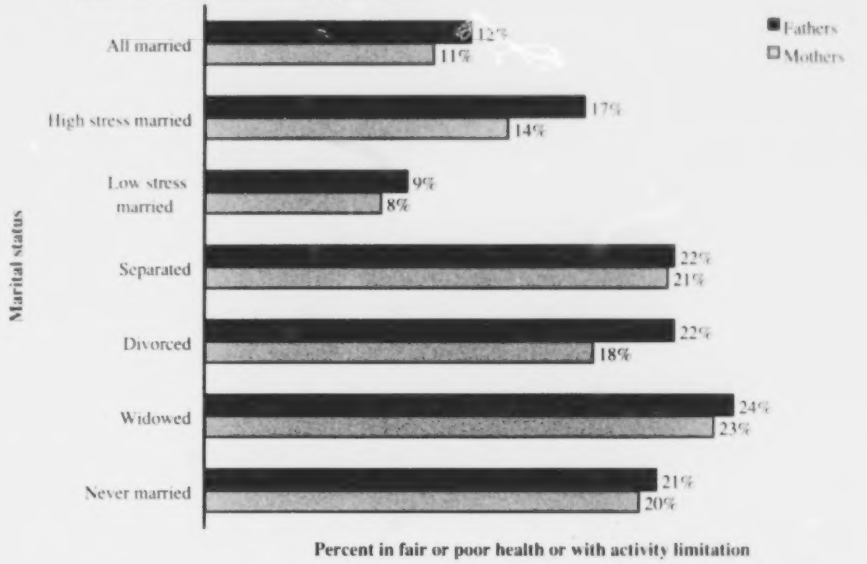
Figure 1-3. Low-income parents four times as likely to be in poor health as higher-income parents



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

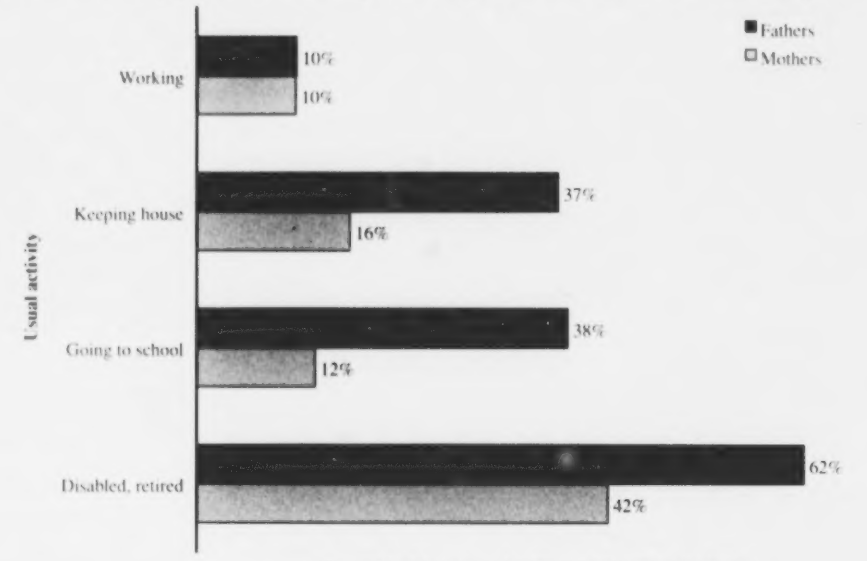
- Mothers or fathers who had not received a high school diploma were three-to-four times more likely to be in poor health than parents who had a college degree (appendix table 1).
- Parents in families with incomes below $10,000 were three-to-four times as likely to be in poor health as those in families with incomes of $50,000 or more (figure 1-3).
- Parents who were separated or divorced, and those who had never married, were twice as likely to be in poor health as married parents (figure 1-4).
- Married parents who experienced a lot of stress in the past year were three-quarters more likely to be in poor health than married parents who had not experienced such stress (figure 1-4).
- Mothers not employed outside the home were 50 percent more likely to be in poor health as those who were employed, while fathers not working at paid jobs were nearly four times as likely to be in poor health as employed fathers (figure 1-5).
- Parents with no health insurance coverage were almost twice as likely to be in poor health as parents with private insurance coverage. Parents covered by Medicaid were even more likely to have less than optimal health (figure 1-6).
- Low-income parents receiving welfare were almost three times as likely to be in ill health as non-poor parents. Parents in families below the poverty line who were not receiving welfare were twice as likely to be in ill health as non-poor parents (appendix table 1).

Figure 1-4. Separated, divorced, widowed, and never married parents twice as likely to be in poor health as married parents



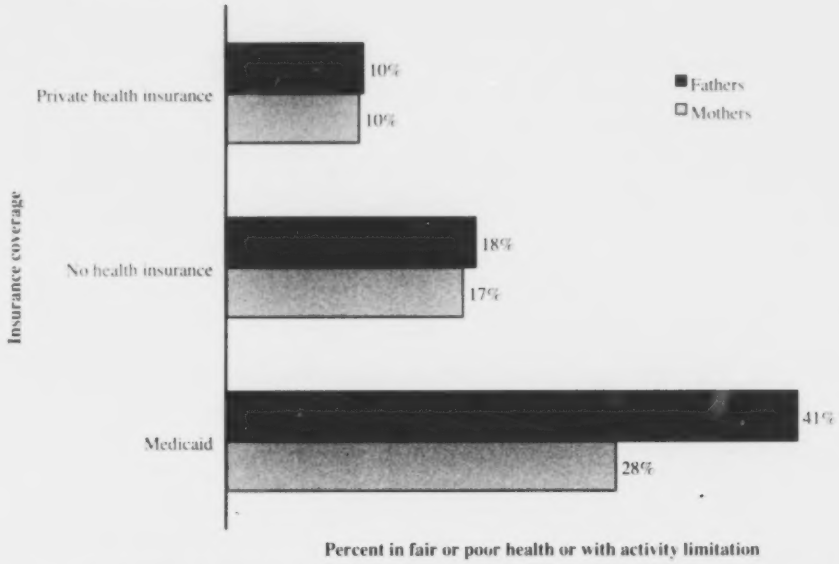
Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 1-5. Working parents less likely to be in poor health than those keeping house



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 1-6. Parents who lack health insurance more likely to be in poor health than those with private insurance



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Predicting Parent Health From a Combination of Personal and Family Characteristics

The differences in health status noted above held up when multiple logistic regression models were used to evaluate the joint influence of age, education, income, and the other personal and family characteristics on parents' health status, as well as to correct statistically for disparities across parent groups in racial and ethnic composition and average age and socioeconomic status (analysis tables 1-1 and 1-2). The chances of a parent being in poor health rose steadily with increasing age, and were twice as high for a mother in her fifties as for one in her twenties. Both low parent education and low family income were leading predictors of poor health in the multivariate models. For example, the odds of a mother being in poor health were only 39 percent as great for a college-graduate mother as for a high-school dropout mother. Likewise, the odds of poor health for a mother in a family with income of $50,000 or more were 41 percent of those for a mother in family with income of $10,000 or less (analysis table 1-1). Similar relationships were found among fathers (analysis table 1-2).

Marital status, parental employment, and welfare receipt remained significant predictors of parent health in the multiple logistic models, although the magnitudes of some of the associations were reduced when related factors were controlled. Specific findings related to these variables are discussed below.

Higher Prevalence of Poor Health Among Minority Parents Associated With Socioeconomic and Lifestyle Differences

The national survey data showed that most mothers and fathers from all the major U.S. racial ethnic groups were in good-to-excellent health with no health-related activity limitations. There were significant disparities in health status across ethnic groups, but most were modest in magnitude (appendix table 1). Furthermore, they

largely dissipated when adjusted for average differences across groups in education, income, age, marital status, and other health-related factors (figures 1-7 and 1-8).

In terms of observed differences unadjusted for the influence of related factors like education and income, black mothers were 62 percent more likely than white mothers to have fair or poor health *or* activity limitations, while Hispanic mothers were 25 percent more likely. Although the proportions who had both fair or poor health *and* activity limitations were small in all groups, the proportion was twice as large among black mothers as among white mothers, and 70 percent larger among Hispanic mothers than among white mothers. Differences in fathers' health statuses showed similar patterns (appendix table 1).

Neither African-American mothers nor Hispanic mothers had a significantly higher prevalence of poor health than white mothers once related factors were controlled in the multiple logistic models (figure 1-7; analysis table 1-1). The same was true with respect to fathers from the three groups (figure 1-8; analysis table 1-2).

Survey estimates regarding the health status of Asian and Pacific Islander and American Indian parents have to be treated with caution, as the numbers of parents from these racial groups in the survey samples were relatively small. The health statuses of mothers from these two groups were found to be comparable to those of white mothers. The health statuses of Asian fathers and American Indian fathers appeared to be somewhat worse than those of white fathers, although differences were not statistically significant. The prevalence of poor health among Asian and Pacific Islander parents and among American Indian parents were not found to differ significantly from those of white parents when related factors were controlled in the multiple logistic models (figures 1-7 and 1-8; analysis tables 1-1 and 1-2).

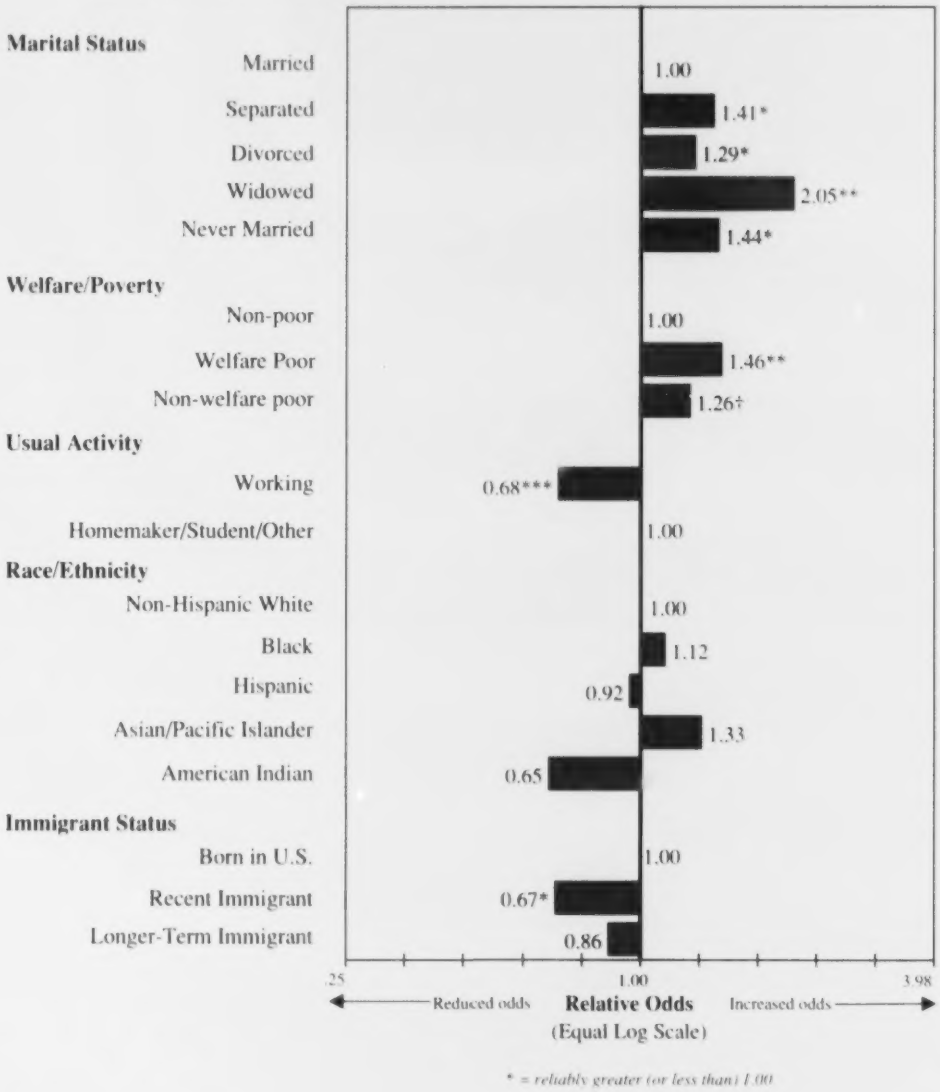
Recent Immigrant Parents In Better Health

In terms of raw percentages, the prevalence of ill health among recent immigrant and longer-term immigrant parents was not significantly different from that among native-born parents (appendix table 1). The picture changed when adjustments were made for related social and demographic characteristics of the immigrant and native-born groups, however. In the multiple logistic models, being a recent immigrant to the U.S. (i.e., arriving here within the last 15 years) was associated with a significantly *lower* chance of being in fair or poor health or having an activity limitation, in comparison with the chances for ill health among native-born parents. The odds of suffering poor health among recent immigrant mothers were two-thirds those of native-born mothers, whereas the odds for recent immigrant fathers were 57 percent those for native-born fathers. Similar differences were not found among immigrant parents who had been in this country longer (15 years or more). The latter groups did not differ significantly from native-born parents (figures 1-7 and 1-8; analysis tables 1-1 and 1-2).

Demographic Trends and Parents' Health

The survey findings suggest that two of the social trends discussed in the Introduction may be leading to a higher prevalence of parents with health problems. The trends are the increased numbers of single parents and the failure of economic growth to significantly reduce the fraction of poor families with children. The growth of maternal employment does not seem to be associated with increased parental health problems, as employed mothers tended to be in *better* health than mothers who were full-time homemakers or students.

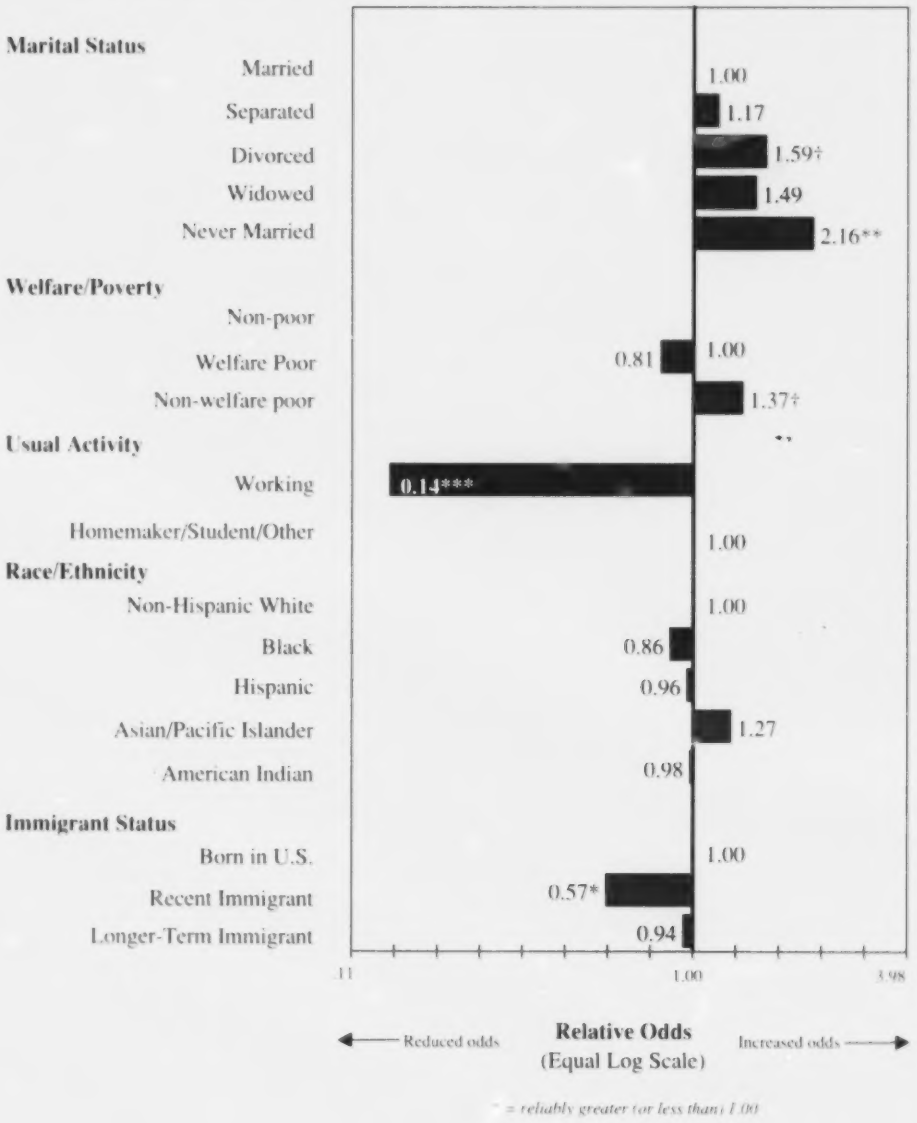
Figure 1-7. Divorced, never-married, and welfare mothers have greater odds of being in poor health, whereas mothers who are employed or recent immigrants have lower odds



** = reliably greater (or less than) 1.00*

Note: Relative odds of fair or poor health adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 1-8. Divorced, never-married, and low-income fathers have greater odds of being in poor health, whereas fathers who are employed or recent immigrants have lower odds



Note: Relative odds of fair or poor health adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Older Parents In Worse Health

The proportion of mothers in fair to poor health or limited by health conditions increased fairly steadily with age, for those who were between 25-29 years old and 50-54 years old: 10.9 percent of the former group had fair to poor health *or* activity limitations, compared with 18.8 percent of the latter group. The 8-point difference between groups represented a 72 percent change toward worse health (figure 1-2). There was also a four-fold increase over the same age range in the proportion of mothers who had fair to poor health *and* activity limitations: from 1.4 percent among 25-29 year olds to 6.6 percent among 50-54 year olds (appendix table 1).

Similar increases with age in the proportion of parents with health problems were found among fathers. Compared to fathers in their twenties or early thirties, those in their early fifties were more than twice as likely to be in fair to poor health or have activity limitations; and five times as likely to have both (figure 1-2; appendix table 1).

Older age was also a leading predictor of poor health in the multiple logistic models. The odds of poor health among mothers was 26 percent higher with each decade from the twenties to the fifties. A similar increase in odds occurred in the regression model for fathers. Although young parenthood is often viewed as a health risk, when other characteristics of 18-24 year old mothers were controlled for, this group had a significantly lower than average chance of being in poor health. The same was true of young fathers (analysis tables 1-1 and 1-2).

These findings suggest that people who defer parenthood to their thirties or forties, or who are still having births at these ages, do face a low but appreciably greater risk of having health problems interfere with their performance of parental duties. On the other hand, the overall odds of good health are still favorable, as the majority of older parents in the survey were in good-to-excellent health with no activity limitations.

Single Parents In Worse Health

In the unadjusted survey observations, parents whose marriages had been disrupted by separation or divorce were twice as likely to be in ill health as parents who were married and living with their spouses. Parents who had never been married also had elevated health problem rates. Among married mothers, 10.5 percent had fair to poor health *or* activity limitations, compared to 21.2 percent of separated mothers and 17.8 percent of divorced mothers. Among never-married mothers, the comparable proportion was 19.9 percent, again, nearly double the rate among married mothers. The small group of widowed mothers also showed a higher rate of health problems, with 23.3 percent of them being in fair to poor health or having activity limitations (figure 1-4).

More severe health problems were also over-represented among mothers from disrupted families and among those who had borne and were raising their minor children outside of marriage. The proportion of mothers with fair to poor health *and* activity limitations was 2.2 percent among married mothers, 5.9 percent among separated mothers, and 5.0 percent among divorced mothers. Never-married mothers had a similarly elevated rate of serious health problems, 5.3 percent, while widowed mothers had the highest rate among the marital groups, 7.8 percent (appendix table 1).

There was similar variation in health status across marital groups among fathers. (Bear in mind that separated, divorced, and never married men who had fathered children were only included in the parents group in this study if they were living with their children, usually as the single parent.) The proportion of fathers who had fair to poor health *or* activity limitations was not quite twice as high among separated fathers (21.5 percent) or divorced fathers (21.5 percent) as among married fathers (12.2 percent). Never-married fathers (20.7 percent) and widowed fathers (24.2 percent) also showed elevated health problem rates (figure 1-4; appendix table 1).

Of course, formerly married and never married parents tend to differ from married parents in a number of ways besides their respective marital statuses. For example, formerly married parents tend to have lower education and income levels than married parents. Never married parents tend to have still lower education and income levels, and to have higher proportions of parents from minority racial and ethnic groups. These related factors are associated with increased risks to parent health, as we have seen.

When adjustments were made for socioeconomic differences across marital groups through multiple logistic regression, both formerly married parents and never married parents still had elevated risks of being in poor health. However, the magnitudes of the associations were considerably reduced. For example, the odds of a divorced mother being in poor health were about 29 percent higher than those for a married mother, whereas the odds for separated and never married mothers were each about 40 percent higher (figure 1-7; analysis table 1-1).

In the regression model for fathers, never married fathers living with their children had more than twice the odds of being in poor health as married fathers. Divorced fathers living with their children had 59 percent higher odds of being in poor health than married fathers, but this difference was only marginally significant ($.05 < p < .10$). Separated fathers living with their children did not have significantly greater odds of being in poor health (figure 1-8; analysis table 1-2).

The picture changed when single parents were compared with married parents *who reported low levels of stress* (see below under discussion of stress theory). In multiple logistic analyses that used this more select group of married parents as a reference group, separated and divorced mothers had nearly double the odds of being in poor health. So did never married mothers. Furthermore, significantly higher odds of ill health were found for divorced fathers as well as mothers (analysis tables 1-3 and 1-4).

These results suggest that unmarried parenthood, marital disruption, and stress within marriage are all associated with higher rates of health problems for the parents involved. They also suggest that the growth of single parenthood will tend to raise the numbers of parents with significant health difficulties. However, part of the increased health risk seems to be due to financial difficulties that many single parents experience or to other factors associated with family disruption, rather than being caused by disruption as such.

Lower Income Parents In Worse Health

As described above, health problems were several times more common among parents in low-income families than among those with middle-class income levels. For example, among mothers in families with incomes below $10,000 per year, more than a quarter (28.7 percent) were in fair to poor health or had an activity limitation, whereas among mothers in families with incomes of $50,000 or more, the proportion with health problems was only one in fifteen (6.9 percent) (figure 1-3). Mothers in families with incomes below the official poverty line, whether they were working poor or welfare-poor families, had two-to-three times the rate of health problems as mothers in non-poor families (appendix table 1).

There were also large differences across income groups in the proportions of parents with more severe health problems (i.e., who were in fair to poor health *and* had health-related activity limitations). While these more serious problems were generally rarer, they were several times more common among parents from low-income families than among those from higher-income families. For example, among mothers in families with annual incomes of less than $10,000, 9.3 percent were in fair to poor health *and* had activity limitations, whereas among mothers from families with incomes of $50,000 or more, only 1.4 percent were similarly afflicted. Mothers in working-poor and welfare-poor families had three-to-four times the rate of more serious health problems as mothers in non-poor families (appendix table 1).

Disparities in the health status of fathers across income groups were generally similar to those found among mothers (figure 1-3; appendix table 1).

Parents in low-income families continued to have elevated rates of health problems when related factors like education, race, and age were controlled by means of multiple logistic regression models. Family income was one of the leading predictors of poor health in the models for both mothers and fathers, comparable in strength to education level and age. Being a mother in a welfare-poor family brought with it an additional risk of poor health, beyond that associated with a low income level. A similar but smaller increase in risk for mothers in non-welfare poor families was not statistically significant ($.05 < p < .10$) (figures 1-7 and 1-8; analysis tables 1-1 and 1-2).

These findings suggest that continuing high rates of poverty and near-poverty among families with children have negative implications for the health of U.S. parents, as well as deleterious consequences for the development of American children.

Employed Parents In Better Health

The relationship observed between parental employment and health is the opposite of what would be expected from the theory that trying to balance work and family causes stress which may lead to or exacerbate health problems. Although there was evidence in the survey that working parents are under more stress (see Chapter 2), the health status of working mothers was significantly *better* than that of mothers who were full-time homemakers. The proportion of mothers who had fair to poor health *or* activity limitations was 10.1 percent among working mothers and 15.6 percent among full-time homemaker mothers (figure 1-5). The proportion with fair to poor health *and* activity limitations was 1.6 percent among working mothers, compared with 4.6 percent among homemaker mothers (appendix table 1). Fathers showed an even more pronounced difference, with 10.2 percent of working fathers, versus 36.8 percent of homemaker fathers, reporting fair to poor health *or* activity limitations. Note that although working mothers are thought to experience more role conflict than working fathers, virtually identical proportions of employed mothers and employed fathers were in ill health.

The differences in health status between employed parents and other parents held up when related factors were controlled by means of multiple logistic regression. The odds that a working mother would be in poor health were only two-thirds as great as those for other mothers. The odds that employed fathers would be in poor health were only 14 percent as great as those for other fathers (figures 1-7 and 1-8; analysis tables 1-1 and 1-2).

A straightforward explanation of these differences is that parents with pre-existing health problems were less likely to be in the paid labor force. The larger difference found among fathers would, by this reasoning, be accounted for by the stronger social pressures for males to be full-time breadwinners. In order for a father to go against this role prescription, chronic ill health or a disability or some other external reason for not working would usually have to be involved. There was no indication from the findings that the increase in maternal employment is bringing with it a rise in parental health problems.

Policy Changes and Parents' Health Problems

The survey findings suggest that ongoing changes in the health care system, especially the swelling numbers of adults who lack health insurance, may be exacerbating the problems of parents who are trying to balance work and family life. Parents without health insurance coverage and those covered by Medicaid were in worse health than parents with private health insurance. The results also indicate that parent health problems may make it difficult to move all low-income families from welfare dependency to

self-sufficiency. Parents in low-income families were in worse health than parents in non-poor families, whether the poor families received welfare or not.

Parents Without Health Insurance Coverage In Worse Health

Most public health researchers would predict that the health of parents with no health insurance coverage would be less good than that of parents covered by private insurance, primarily because the former group has limited access to medical care, especially preventive care. Also, parents without health insurance coverage are often from families in which one or both parents are working at low-wage jobs that provide no health benefits. On the other hand, the non-covered population has a diverse composition, including some adults who are relatively young, better educated, with higher incomes than either the welfare poor or the working poor. To the extent that these social factors matter as much or more than access to care, it might be argued that the health status of the non-covered group should not be all that bad.

One parent in seven in the NHIS—15 percent of mothers and 14 percent of fathers—lacked health insurance coverage. The health of parents with no health insurance coverage proved to be significantly worse than that of parents with private health insurance. (Seventy-one percent of mothers and 81 percent of fathers had private insurance coverage). Among mothers, for example, the proportion in fair to poor health *or* with activity limitations was 16.9 percent among those with no health insurance coverage, about 70 percent higher than the comparable proportion (9.5 percent) among mothers with private health insurance (figure 1-6). The proportion with fair to poor health *and* activity limitations was 3.6 percent among non-covered mothers, nearly double the proportion (1.9 percent) among mothers with private health insurance. A similar pattern was found among fathers (appendix table 1).

These findings underscore the unmet need that exists because of gaps in health insurance coverage in the U.S. It is not the case that uninsured parents simply do not need care. Many of them do need care and, as shown in Chapter 4, many are not getting it, most likely because they lack the means to pay for it.

Parents with Medicaid Coverage In Worse Health

Many public health analysts would predict that parents covered by Medicaid would be in less good health than parents covered by private insurance, primarily because Medicaid recipients are poorer and less well educated, on average, than adults who receive health benefits through their employment. On the other hand, the health problems of Medicaid parents should be somewhat ameliorated by dint of the care they are able to obtain through the program.

More than 11 percent of mothers in the NHIS, but less than 3 percent of fathers, had their health care covered by Medicaid. Parents on Medicaid proved to be in considerably worse health than parents with private health insurance. Indeed, the health of Medicaid parents turned out to be worse than that of parents without insurance coverage. Among mothers, the proportion in fair to poor health *or* with activity limitations was 27.8 percent among Medicaid recipients, nearly three times higher than the proportion among mothers with private health insurance (9.5 percent). The proportion of Medicaid mothers with ill health was nearly two-thirds higher than the proportion found among mothers with no insurance (16.9 percent) (figure 1-6). The proportion of Medicaid mothers with fair to poor health *and* activity limitations was 9.2 percent, more than four times greater than the proportion among mothers with private coverage (1.9 percent), and more than double the proportion among mothers with no coverage (3.6 percent) (appendix table 1).

Medicaid fathers were in even worse health than Medicaid mothers, with 40.7 percent having fair to poor health *or* activity limitations, and 22.2

percent having both (appendix table 1). This probably reflects the fact that health problems or disabilities helped to make families with fathers eligible for Medicaid at the time of the survey.

These findings demonstrate that the non-elderly adult population covered by the Medicaid program is one that has a high prevalence of disability and chronic illness. Providing care for this population, even under a managed care system, stands to be a more expensive proposition than providing care for a middle-class population. The fact that Medicaid parents reported more illness and disability than parents without health insurance coverage should not be taken as evidence that the program does nothing for the health status of its beneficiaries. Without the care they were receiving under the program, the Medicaid parents might well have been in even worse health.

Parents In Poverty In Worse Health, Whether Or Not They Receive Welfare

Some social theorists believe that low-income parents not covered by welfare should be in worse health than those who were receiving cash welfare payments and related non-cash benefits. They predict this for two reasons: first, because they believe it to be especially stressful and detrimental to work and raise a family as a parent with a low-wage job; second, because the non-welfare poor did not have Medicaid and other "safety net" services that used to be linked to AFDC eligibility. Others would predict that welfare recipients should be in worse health than the non-welfare poor, but for differing reasons. Some expect more health problems among welfare recipients because parents with preexisting health problems were less likely to be employed and more likely to be receiving AFDC. Others view welfare dependency as a negative state of affairs that leads to deleterious health-related behaviors.

What the survey found was that the health of both welfare parents and non-welfare poor parents was worse than that of non-poor parents. There was evidence that welfare parents were in worse health than non-welfare poor parents, but differences between the two poverty groups were not always significant.

Welfare poor. As noted earlier, the health of welfare parents was substantially worse than that of non-poor parents. The proportion of mothers with fair to poor health *or* activity limitations was 27.7 percent among welfare recipients, nearly three times greater than the 10.3 percent with comparable health problems among the non-poor. Likewise, the proportion of mothers with both fair to poor health *and* limitations was 8.1 percent among welfare recipients, nearly four times higher than the comparable proportion (2.2 percent) among the non-poor (appendix table 1).

The health status of AFDC parents was very similar to that of Medicaid recipients. This is not surprising, given that AFDC recipients made up a large portion of the Medicaid caseload in the early 1990s. (The national Medicaid program has since been expanded to cover more of the working poor.)

Data on the health of fathers receiving AFDC are somewhat misleading in terms of testing competing hypotheses about welfare. To begin with, only about 3 percent of fathers who lived with their children were receiving welfare (furthermore, some of these men were stepfathers or adoptive fathers, rather than the biological fathers of the children). Because of program eligibility requirements at the time of the survey, families that had fathers present were usually not eligible to receive AFDC *unless* the father was disabled, had a long-term illness, or was chronically unemployed. Thus, it is perhaps not surprising that the proportion of welfare fathers with both fair to poor health *and* limitations was a very high 21.2 percent, nine times higher than the comparable proportion (2.4 percent) among non-poor fathers. The proportion of fathers with fair to poor health *or* activity limitations was 35.1 percent among welfare recipients, three times higher than the comparable proportion (11.4 percent) among non-poor fathers (appendix table 1).

Non-welfare poor. Parents in non-welfare poor families had rates of ill health that were substantially higher than those of parents in non-poor families, but somewhat lower than those of parents in welfare families. For example, the proportion of mothers with fair to poor health *or* activity limitations was 22.2 percent among the non-welfare poor, compared with 10.3 percent among non-poor mothers and 27.7 percent among welfare recipients. The proportion of mothers with both fair to poor health *and* limitations was 6.4 percent among poor mothers not receiving welfare, compared with 2.2 percent among non-poor mothers and 8.1 percent among welfare recipients. In this instance, the difference between working poor and welfare poor mothers was not statistically significant (appendix table 1).

The proportion of fathers with fair to poor health *or* activity limitations was 26.5 percent among the non-welfare poor. This was more than double the rate (11.4 percent) among non-poor fathers. The proportion of fathers with both fair to poor health *and* limitations was 11 percent among the non-welfare poor, more than four times higher than the rate (2.4 percent) among the non-poor fathers.

In multiple logistic models predicting to parents being in fair or poor health *or* having activity limitations, only welfare mothers had an increased risk of being in ill health, over and above the risk associated with low income and other related factors. Coefficients for non-welfare poor mothers and welfare- and non-welfare poor fathers were not statistically significant, although those for the non-welfare poor approached significance ($.05 < p < .10$) (figures 1-7 and 1-8; analysis tables 1-1 and 1-2).

The safest thing to conclude from the survey findings is that both welfare- and non-welfare poor parents have elevated rates of health problems. Although some of the results indicated that the health of welfare parents was even worse than that of working-poor parents, the differences were smaller than those between the two poor groups and non-poor parents, and they were not always statistically significant. On the other hand, there was certainly no indication that welfare poor parents were in *better* health than working poor parents.

The results suggest that parent health problems may pose a significant obstacle to achieving the goal of moving all low-income families from welfare dependency to stable employment. They also underscore the need for adequate health care coverage for families that are trying to make the transition to self-sufficiency.

Stress, Resources, and Dysfunctional Behavior: Were Variations In Parent Health In Line With the Theories' Predictions?

Three theoretical perspectives on how the social environment influences human health were described in the Introduction: stress theory, resource and opportunity theory, and dysfunctional behavior theory. Most of the predictions about parent health derived from the first two of these theories were borne out by the survey findings. However, other results were not in line with theoretical expectations. Variations in parent health by marital status were supportive of stress theory, but health differences between employed and homemaker mothers were not. Variations in parent health by income and education levels were supportive of resource theory, but the poorer health of low-income parents who had access to health care through Medicaid was not. Differences between the health of welfare- and non-welfare poor parents were not clear cut enough to be unambiguously supportive of dysfunctional behavior theory.

Parents Under Stress More Likely To Be In Poor Health

In general, the survey findings were supportive of the notion that parents who have been under severe or chronic stress are more likely to have health problems than those who have not

experienced such stress. In particular, variations in parent health across marital categories were in line with what stress theory would predict. Separated and divorced mothers would be expected to have experienced the stress of conflict during their marriages, the breakup of those marriages, and possibly post-separation conflict as well. They would also have experienced the strain of rearing children and maintaining a household as single parents. Thus, they would be expected to have more health problems, on average than married mothers, most of whom had not experienced the same series of stressful events. (Of course, some married mothers would have experienced considerable conflict or unhappiness in their marriages, but these women would presumably comprise only a fraction of the married group.) As predicted, more separated and divorced mothers than married mothers were in poor health. Furthermore, differences in health status remained significant, though somewhat diminished in magnitude, when other disparities between the married and formerly married groups were controlled, such as differences in average education and income levels.

Widowed mothers have experienced the deaths of their husbands, usually an extremely stressful event. They would also have experienced the strain of rearing children and maintaining a household as single parents. So they too would be expected to be in poorer health, on average, than married mothers. And they were.

The sources of stress experienced by never married mothers are not as obvious as those for formerly married mothers. Some never married mothers have not lived with the fathers of their children, and so have experienced relatively little in the way of conjugal conflict. They would have the strain of rearing children and maintaining households as single parents, often with meager educational and financial resources and minimal help from the fathers. They also would have experienced the role conflict of trying to establish longer-term romantic relationships with other men *after* having had children, rather than following the more customary sequence (or at least what used to be the customary sequence) of engaging in courtship *prior* to bearing children. In any event, never married mothers did show a higher frequency of poor health than married mothers, and this difference remained significant after controls for disparities across the groups in average age, education, income, and race and ethnic composition.

Results concerning the health status of single fathers were largely parallel to those for single mothers.[12] This was so even though the NHIS data only permitted identification of formerly married and never married fathers who were living with their children, thus excluding the majority of single fathers from the analysis.

Also supportive of stress theory was the finding that married mothers who reported experiencing a lot of stress in the past year were more likely to be in poor health than married mothers who had not had comparable stressful experiences. Indeed, when these married mothers were included in the multiple regression model as a separate group, they were found to have elevated odds of being in poor health comparable to the risks found for separated, divorced, and never married mothers. Furthermore, using married mothers with low stress as the reference group increased the magnitude of the risk coefficients for the formerly married and never married groups. Compared to married mothers with low stress, for example, separated mothers had nearly double the odds of being in poor health, even after related socioeconomic factors were controlled. Findings concerning the health of married fathers who had experienced a lot of stress paralleled those for mothers. What the married-high stress results suggest is that the marital state that is truly beneficial to a parent's health is not just being married, but being in a reasonably harmonious and stress-free marriage.

In contrast to the findings with respect to the marital status groups, results concerning the health status of employed mothers did not support the stress theory. Employed mothers are commonly thought to be under more pressure than full-time homemakers. Results presented in Chapter 2 support the idea that working mothers

experienced more stress. However, as noted above, the health status of employed mothers proved to be better than that of other mothers. This result is consistent with findings of other studies on the topic. There are several potential explanations for this failure to find a health effect, including the possibility that working outside the home may not be as stressful for most mothers as it is often made out to be. This and other interpretations are discussed in the following chapters, after further relevant data from the NHIS are presented.

Parents With Fewer Resources More Likely To Be In Poor Health

The survey findings were generally in line with the theory that people who have less "human capital" and fewer economic resources are more likely to be in ill health. Both parent education level and family income were leading predictors of poor parent health in the multiple logistic regression models. The proportion of parents in poor health declined progressively as educational attainment rose and as family income mounted. The finding that education and income were coequal predictors of parent health, with education having perhaps a slight edge in predictive power, implies that problem-solving skills and informational resources are at least as important as access to goods and services in promoting health and well-being. Of course, the survey results do not rule out the possibility that education, income, and health status are all a function of some fourth causative factor, such as individual differences in ability or drive.

One version of resource theory holds that resources are important for health because they enable the person to have ready access to medical care. This version of the theory was not supported by the comparison between parents covered by Medicaid and those with no health insurance coverage. The Medicaid parents were in worse health—or at least no better health—despite having better access to care. The same thing was true in the comparison of the health of welfare- and non-welfare poor parents. It is possible, of course, that Medicaid and welfare parents were in much worse health to begin with. Receiving subsidized care may have improved their health considerably, but not enough to make them as healthy as other groups of parents. It is also possible that the quality of care that Medicaid parents received was inferior to that received by other parents. Chapter 4 provides some evidence on this point.

Subsequent chapters furnish more survey data that speak to the question of the mechanism or mechanisms that underlie education- and income-related differences in health status. The data include information about variations in feelings of stress and depression across the education and income groups (Chapter 2), differences in health-related behavior (Chapter 3), and differences in use of health care (Chapter 4).

Evidence On Dysfunctional Behavior Hypothesis Is Inconclusive

The survey findings about the health status of welfare parents could be seen as lending at least partial support to the theory that dysfunctional behavior is responsible for both the impoverished circumstances of these parents and their health problems. Observers with this perspective would note that the health of welfare parents was worse than that of working poor parents and non-poor parents, despite the welfare parents having access to medical care through Medicaid. They would interpret this finding as consistent with their view that changing detrimental behavior patterns is more important than providing more services, if one seeks to improve the health status and economic situation of welfare recipients. However, there are several flaws in this argument, at least at this point. First, the health differences between welfare and non-welfare poor groups were smaller than those between the poor groups and the non-poor, and were not always statistically significant. Second, we have not yet established that welfare parents do in fact engage in dysfunctional behavior more frequently than working poor or non-poor parents. In the absence of such evidence, one could argue that

pre-existing conditions and illness-related work limitations of welfare parents might be responsible for both their financial circumstances and their worse health status. Evidence on the health-related behavior of welfare parents and other parents is presented in Chapters 3 and 4.

The next chapter examines group differences in parents' reported feelings of stress and depression. These data serve two functions in the investigation. The first function is to validate whether suppositions about some groups of parents being under more stress than other groups are confirmed by parents' own reports concerning their subjective feelings. Second, these data indicate whether these indicators of parents' mental health vary across groups in a manner similar to or different from the pattern shown by the general health status indicators.

Notes to Chapter 1

1. National Center for Health Statistics (1990). *Health, United States, 1996-97, and Injury Chartbook*, Table 28. Life expectancy at birth and at 65 years of age, according to sex: Selected countries, 1988 and 1993, pp. 106-107; Table 29. Life expectancy at birth, at 65 years of age, and at 75 years of age, selected years 1900-95, p. 108; Table 31. Age-adjusted death rates for selected causes of death: United States, selected years 1950-95, pp. 111-114.

2. *Ibid.*, Table 56. Selected notifiable disease rates: United States, selected years 1950-95, p. 173.

3. Fingerhut *et al.* (1998). International comparative analysis of injury mortality. Figure 15, p. 12.

4. Feinstein (1993); Adams & Benson (1991). Table 59, pp. 86-87. See also: Andersen, Mullner, & Cornelius (1987) and Manton *et al.* (1987).

5. National Center for Health Statistics (1997). *Health, U.S., 1996-97*, Table 30. Age-adjusted death rates, according to detailed race, Hispanic origin, geographic division, and State: United States, average annual 1984-86, 1989-91, and 1993-95, pp. 109-110.

6. *Ibid.*, Table 62. Limitation of activity caused by chronic conditions, according to selected characteristics: United States, 1990 and 1994, p. 180; Table 63. Respondent-assessed health status, according to selected characteristics: United States, 1987-94, p. 181.

7. Ries & Brown (1991). Disability and health: Characteristics of persons by limitation of activity and assessed health status, United States, 1984-88.

8. Jack Elinson, Division of Sociomedical Sciences, Columbia University School of Public Health, personal communication, 1997.

9. Another validation of this combination of questions as health status indicators may be seen in NHIS data on the health of the small number of parents aged 18-54 who reported that their medical care was covered by the Medicare program. Adults under 65 years of age only qualify for Medicare if they have relatively severe disabilities or chronic illnesses, such as end-stage renal disease. Consistent with the expectation that the Medicare-eligible should be in poor health, virtually all of the Medicare fathers (98 percent) and a large majority of Medicare mothers (82 percent) reported fair to poor health *or* activity limitations. Nearly nine out of ten Medicare fathers (89 percent) and two-thirds of Medicare mothers (64 percent) reported both fair to poor health *and* activity limitations. Some of the respondents not in poor health may have been mistaken in saying that their care was covered by Medicare, of course.

10. Adams & Benson (1991). Table 57, pp. 82-83.

11. Morrison (1983). *Children of depressed parents.*

12. Although coefficients for separated, divorced, and widowed fathers were not statistically significant in the multiple logistic regression analysis that used all married fathers as a reference group, they were significant in the analysis that used married fathers with low stress levels as the reference group.

Chapter 2 Parents Under Stress

While most American parents are in good to excellent general health, there is reason to believe that stress and sadness are a daily burden for large numbers of mothers and fathers. Many of today's parents have experienced separation or divorce from their marital partners, which is usually a wrenching experience and one that has long-term emotional as well as financial consequences. Others have entered into parenthood outside of marriage. They must cope with the challenges of rearing children and supporting a family on their own, often with minimal assistance from the other parent.

In addition, a sizable minority of U.S. families with children lives near or below the poverty level. Worries about having enough money to meet family expenses and keep creditors at bay is a frequent source of anxiety in these families. Even when financial resources are not a major concern, in many of today's families, both parents are working outside the home. In these families, the time pressures and other trials involved in juggling the requirements of the workplace and the demands of childrearing and family life are often continuing sources of tension and strain. The health problems of a parent or child may themselves become a cause of stress or marital conflict.

Of course, when parents experience scheduling conflicts and time pressures, it is a sign that they are trying to do right by their children and provide them with a varied and stimulating set of experiences. In this sense, a mothers' report that she feels somewhat harried may actually be a positive sign for her child's development. It might well be worse if parents reduced the pressures on themselves by neglecting their children's needs. On the other hand, if stress, sadness, or other negative feelings are so frequent or intense that they get in the way of daily functioning, they can be detrimental to successful childrearing and to the economic well-being of the family.

This chapter examines parents' own reports concerning perceived stress and feelings of sadness and upset to establish how frequent these unpleasant emotions are among U.S. parents as a whole and among various social and demographic subgroups. The chapter also looks at the frequency with which parents seek professional help for emotional problems. Again, the research strategy was to see what group differences would tell us about the implications of the changing demographics of parenthood and of changes in health care and welfare policies that our society is currently undertaking.

Research Questions About Parents' Emotional Well-Being

The analyses of variations in parents' reports of stress, negative feelings, and psychological help-seeking sought to answer the following specific questions:

- Do older parents experience more stress, sadness, or upset than parents in the prime childrearing ages? Or do they report fewer of these negative feelings, as might be expected because of their greater maturity and life experience, and their educational and economic advantages over younger parents? What about very young parents (those in their teens and early twenties)?
- Do parents with high levels of education and income experience less perceived stress and fewer negative feelings than parents with lower levels of education or income?

- Do parents who are separated or divorced experience more perceived stress and negative feelings than parents who are married and living with their spouses? What about parents who have never married?
- Do employed parents, especially working mothers, report more stress than parents who are full-time homemakers? What about other negative feelings, such as depression, boredom, or loneliness? Are they more common or less common among employed parents?
- Are parents without health insurance in worse emotional health, as well as worse general health, than parents with private health insurance coverage? Do Medicaid recipients exhibit more stress and negative feelings than parents with private insurance or those with no insurance coverage?
- Do low-income parents who receive cash welfare payments experience less stress and fewer negative feelings than poor parents who do not receive welfare, as resources theory would predict? Or do they exhibit *more* stress, sadness, and upset, as dysfunctional behavior theory would predict?

Indicators of Stress, Negative Feelings, and Psychological Help Seeking

Men and women who participated in the Health Promotion and Disease Prevention (HPDP) Supplement to the 1990 National Health Interview Survey (NHIS) were asked: "During the past two weeks, would you say that you experienced a lot of stress, a moderate amount of stress, relatively little stress, or almost no stress at all?" They were asked the same question about their stress experience during the past year. The proportion responding that they experienced "a lot of stress" during either the past two weeks *or* the past year was calculated and used as an indicator of stress levels in different groups of parents.

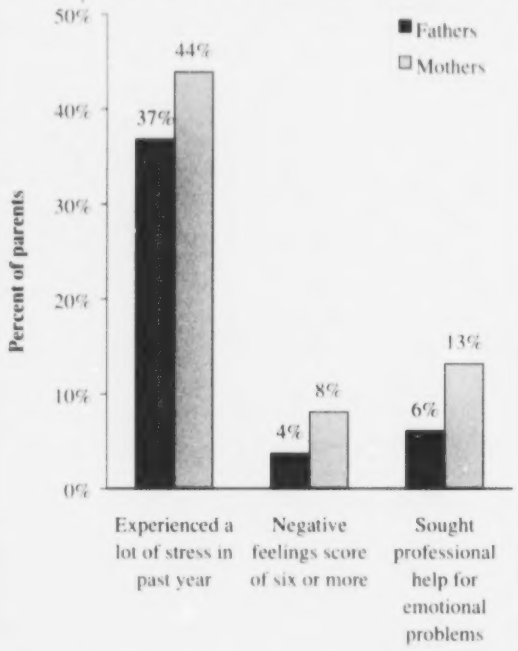
Men and women who participated in the HPDP Supplement to the 1991 National Health Interview Survey were asked whether, during the past 2 weeks, they felt "depressed or very low" "never, rarely, sometimes, often, or very often." The same question was asked about four related negative feelings: boredom, agitated restlessness, upset because of comments someone made about you, and loneliness or abandonment. Responses to these five questions were combined into a negative feelings scale, with each response of "often" receiving one point and each response of "very often" receiving two points. Thus, the negative feelings scale score could range from zero to ten. Based on previous research with similar scales, a score of six or higher was used as a cutoff value indicating that the person had negative feelings frequent enough or intense enough to warrant possible clinical attention. In addition to calculating the mean scale score for each group of women and men, the percentage in each group with scores of six or more was tabulated and analyzed.

Women and men who participated in the HPDP Supplement to the 1990 NHIS were asked whether they had sought help for "any personal or emotional problems" from "a helping professional or a self-help group" during the past year. The proportion reporting they had sought professional care for emotional problems may be seen as an indicator of the frequency of more serious psychological problems in different groups. Of course, the proportion also reflects differences in access to psychological counseling, as well as variations in the acceptability of such treatment across different segments of the population.

Almost One In Two Mothers and More Than One In Three Fathers Experience Considerable Stress In the Course of A Year

Among U.S. mothers living with children under 18 years of age, nearly half (43.9 percent) reported that they had experienced "a lot of stress" during the past 2 weeks or the past year. The same was true of more than a third (36.8 percent) of all fathers who lived with their children. The typical mother reported that she "often" experienced one or two of the five unpleasant emotions in the negative feelings scale: depressed, bored, agitated, lonely, or upset over some critical remark or slight. The mean score for mothers on the scale was 1.74 out of a possible ten. One mother in twelve (8.1 percent) had a score of six or more. One mother in eight (13.2 percent) had sought professional help for personal or emotional problems in the last twelve months (figure 2-1).

Figure 2-1. Almost one mother in every two experienced considerable stress



Source: N. Zill (1997). Tabulation of data from 1990 and 1991 National Health Interview Surveys, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

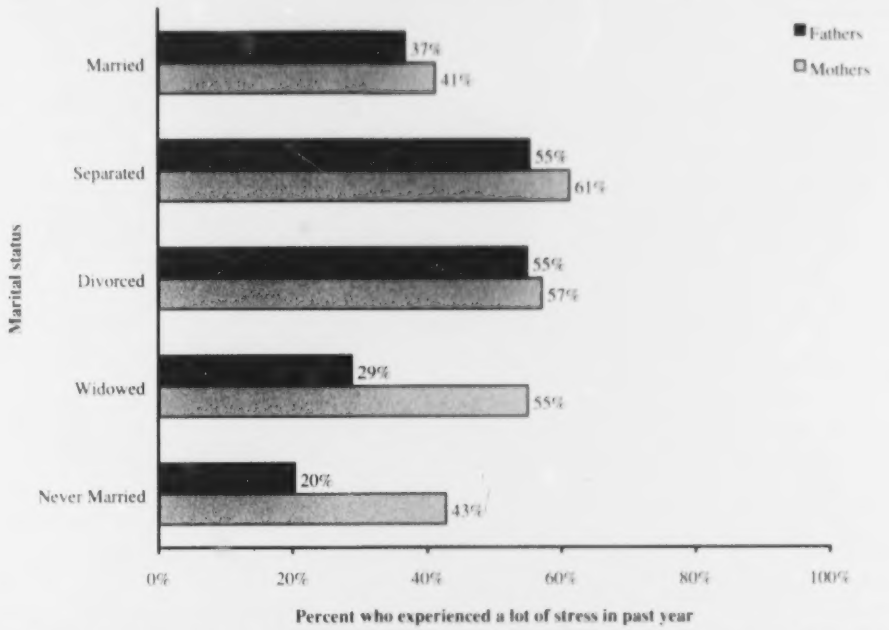
Half As Many Fathers Report Negative Feelings

A typical father living with children under 18 reported that he "often" experienced one of the five unpleasant emotions in the negative feelings scale. The mean score for fathers on the scale was 1.20 out of ten. Half as many fathers (3.7 percent) as mothers (8.1 percent) had scores of six or higher on the scale. Likewise, half as many fathers as mothers sought professional help for emotional problems in the last year: one father in sixteen (6.1 percent) sought such help (figure 2-1).

Marital Disruption and Maternal Employment Associated With Higher Stress Levels

The pattern of variation in emotional well-being indicators across different groups of parents was somewhat different for reports of stress as opposed to reports of other negative feelings. Stress was correlated with marital status, employment status, race and ethnicity, and immigrant status. Surprisingly, however, reported stress showed weak and inconsistent relationships with education, income, and age (appendix table 3).

Figure 2-2. Majorities of separated and divorced parents experienced stress



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

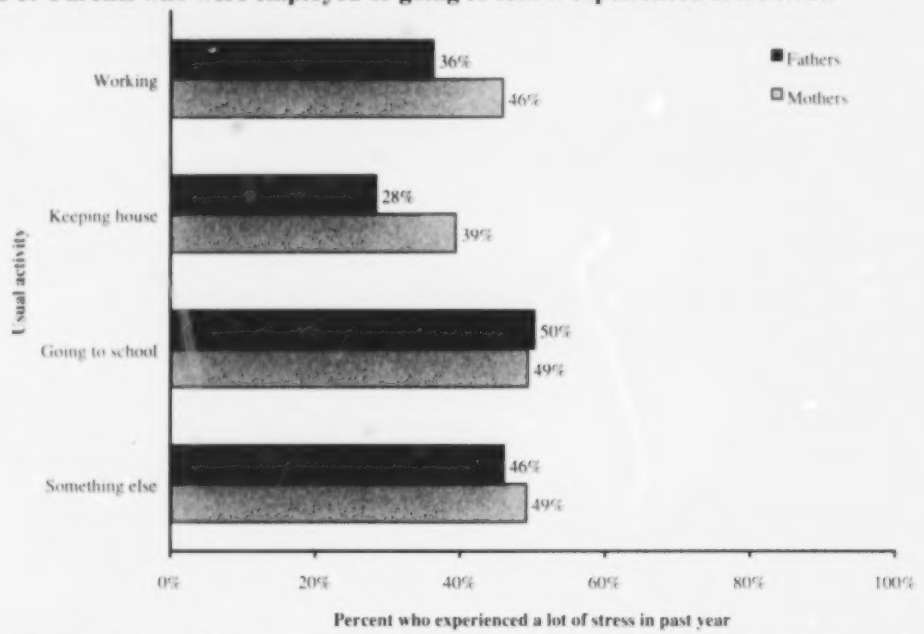
Some of the specific relationships observed were the following:

- Parents who were separated or divorced were half again as likely to have experienced a lot of stress as married parents who lived with their spouses. Among mothers, 61.2 percent of the separated and 57.1 percent of the divorced experienced a lot of stress, compared with 41.2 percent of the married mothers. Parents who had never married did not report higher levels of stress (figure 2-2).

Mothers and fathers employed outside the home were 20-to-30 percent more likely to have experienced a lot of stress than parents who were full-time homemakers. Parents going to school were also more likely to report stress. Among mothers, 45.9 percent of those working outside the home reported a lot of stress, as did 49.4 percent of those going to school, compared with 39.4 percent of the full-time homemakers (figure 2-3).

- Smaller proportions of Black and Hispanic parents than of white parents reported experiencing high levels of stress. Among mothers, 33.3 percent of Hispanic mothers, 40.5 percent of black mothers, and 46.6 percent of white mothers reported a lot of stress.
- About a third fewer immigrant parents than native-born parents reported experiencing a lot of stress.
- Mothers covered by Medicaid reported somewhat higher levels of stress (49.1 percent) than mothers covered by private health insurance (42.9 percent). Mothers with no health insurance did not show higher stress levels (44.1 percent). Fathers showed a similar pattern.
- Welfare mothers showed higher levels of stress (50.6 percent) than non-poor mothers (43.1 percent). Mothers who were poor but not on welfare (45.5 percent) did not report more stress.

Figure 2-3. Parents who were employed or going to school experienced more stress



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

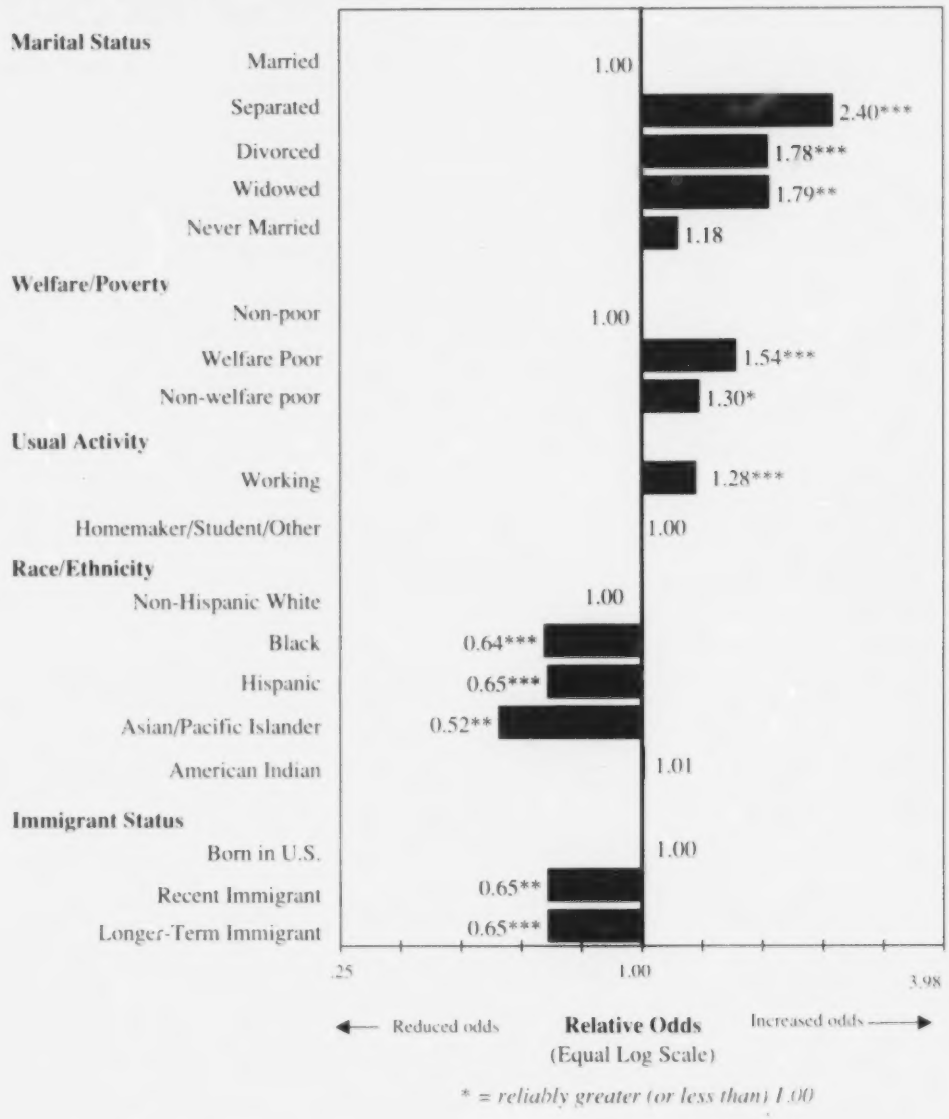
Multivariate findings. When multiple logistic regression models were used to evaluate the joint influence of demographic and socioeconomic characteristics on parental stress, most of the relationships described above persisted (figure 2-4; analysis table 2-1). Formerly married mothers and working mothers showed higher levels of stress, while minority mothers and immigrant mothers reported lower levels. When other factors were controlled, both poor mothers receiving welfare and those not receiving it reported higher levels of stress than non-poor mothers. Otherwise, income and education level were not associated with reported stress, nor was the mother's age group.

The regression model for fathers showed similar patterns as far as marital status, race and ethnicity, and immigrant status were concerned. The model for fathers differed in other respects, however (figure 2-5; analysis table 2-2). When other factors were controlled and employed fathers were contrasted with all non-working fathers (including students, retired fathers, and those with disabilities), paternal employment was found to be associated with significantly *lower* levels of stress. Also, poor fathers not receiving welfare reported significantly more stress than non-poor fathers. Apart from this difference, however, higher education and income levels were associated with slightly *greater* odds of reporting stress among fathers. There was also a slight tendency for reported stress to decrease with age in fathers, whereas this was not true for mothers.

Marital Disruption, Lower Education and Income Associated With Negative Feelings

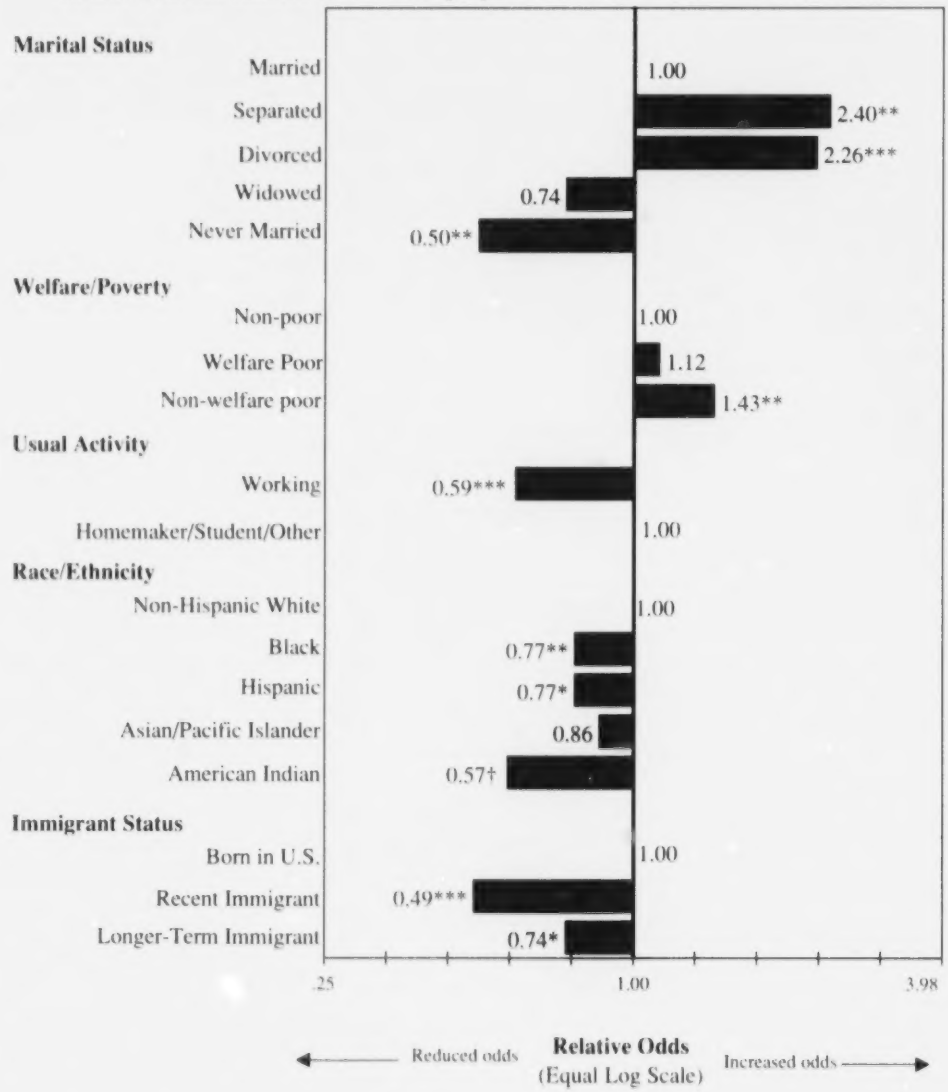
Parent reports of negative feelings like depression, boredom, and loneliness were more in line with theoretical expectations in the sense that these unpleasant emotions were

Figure 2-4. Separated, divorced, or widowed mothers, low-income mothers, and employed mothers have greater odds of experiencing a lot of stress



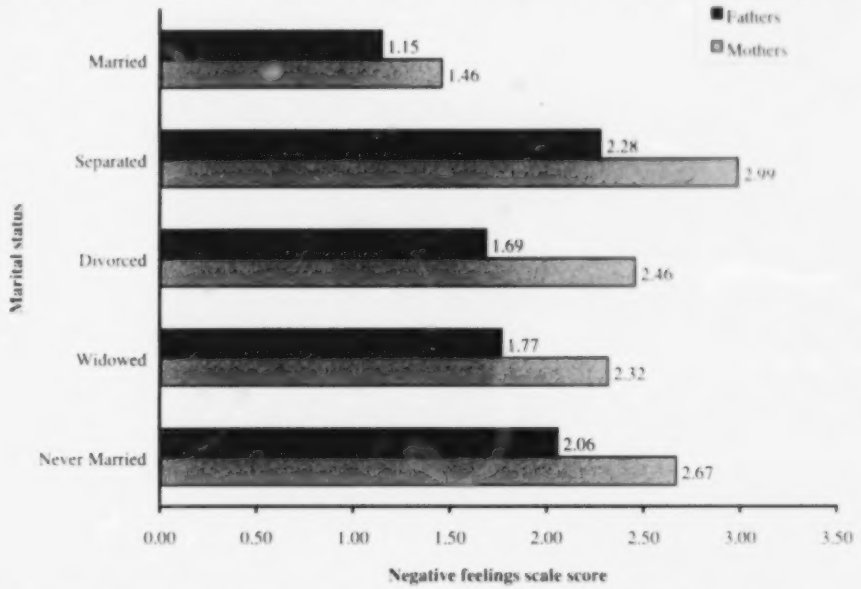
Note: Relative odds of experiencing stress adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 2-5. Separated, divorced, or low-income fathers have greater odds of experiencing a lot of stress, whereas fathers who are employed or never married have lesser odds



Note: Relative odds of experiencing stress adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 2-6. Formerly married and never married parents experienced more depression and upset

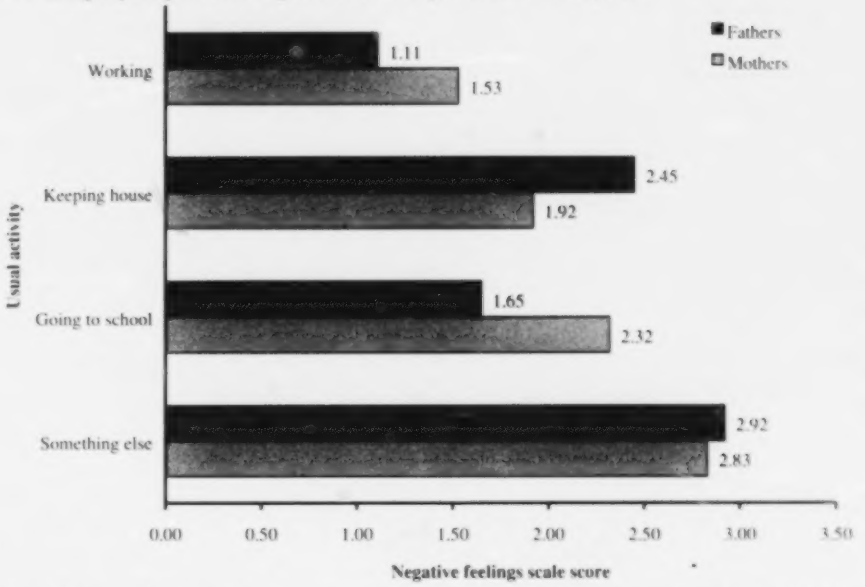


Source: N. Zill (1997). Tabulation of data from 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

considerably more common among mothers and fathers with low education and income levels than among parents with greater cultural and material advantages. Negative feelings also showed significant correlations with parent age, although it was predominantly the younger, not the older parents who reported more sadness and upset (appendix table 4). Other findings were as follows:

- With respect to marital status, the pattern of variation in negative feelings was consistent with the pattern for stress: formerly married mothers and fathers reported more negative feelings than those who were currently married (figure 2-6).
- With regard to parental employment, the pattern was opposite: employed mothers and fathers reported significantly *less* sadness, restlessness, boredom, upset, and loneliness than full-time homemakers (figure 2-7).
- Medicaid mothers reported more depression and upset than mothers with no health insurance, who reported more than mothers with private health insurance. Among fathers, both those covered by Medicaid and those with no insurance showed more negative feelings than fathers with private insurance, but did not differ from one another (appendix table 4).
- Welfare mothers reported more depression and upset than poor mothers not receiving welfare, and both groups of poor mothers reported more negative feelings than non-poor mothers. Welfare fathers and poor fathers not receiving welfare showed equally elevated levels of negative feelings, compared with non-poor fathers (appendix table 4).
- African-American mothers were more prone to depression and other negative feelings than white mothers. The same was *not* true of African-American fathers, nor of Hispanic parents (appendix table 4).
- As with stress, immigrant mothers and fathers reported fewer negative feelings than native-born parents (appendix table 4).

Figure 2-7. Employed parents reported less depression and upset



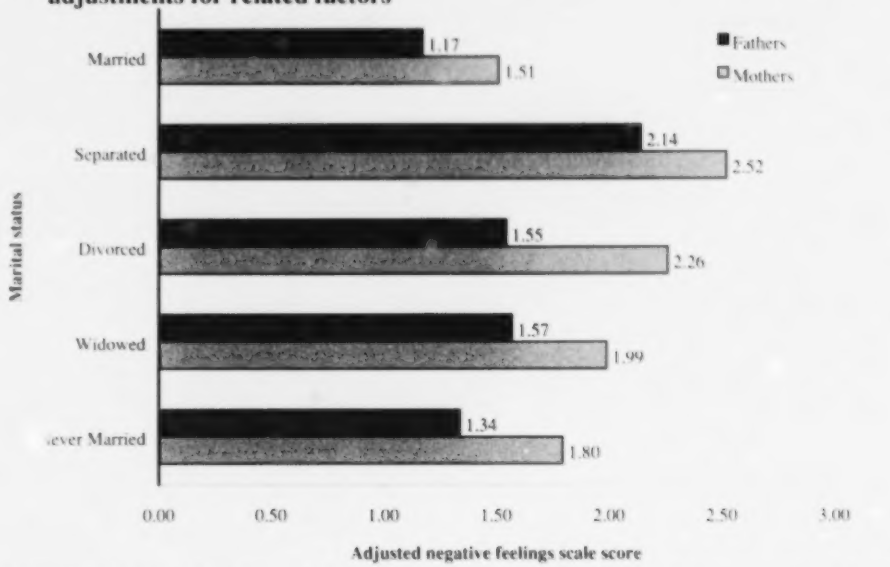
Source: N. Zill (1997). Tabulation of data from 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Multivariate findings. When multiple linear regression models were used to evaluate the joint influence of demographic and socioeconomic characteristics on negative feelings, most of the relationships mentioned above remained significant. Among mothers, both education and income were inversely related to depression and upset (analysis table 2-3). However, mothers with very low education levels (grade school only) showed fewer negative emotions than high-school dropout mothers. Age was inversely related to negative feelings, and very young mothers were more prone to depressed feelings than mothers in their late twenties. Divorced, separated, and widowed mothers, and even never married mothers, had higher scale scores than currently married mothers (figure 2-8). Welfare mothers and non-welfare poor mothers had higher scores than non-poor mothers. Black mothers had higher scores than white, non- Hispanic mothers. Employed mothers had lower scores, as did immigrant mothers.

Relationship patterns were generally similar when multiple logistic regression models were used to identify mothers with extreme levels of negative feelings (scale scores of six or more) (analysis table 2-5). However, widowed and never married mothers, and welfare and non-welfare poor mothers did not show significantly higher risks of severe depression or agitation. (Low income and low education *were* associated with higher risks of extreme negative feelings.) Black mothers continued to be at greater risk of severe depression or upset, while Hispanic mothers showed significantly *lower* risks of such feelings. Recent immigrant mothers also showed lower risk, but longer-term immigrant mothers were not significantly different from native-born mothers.

Multiple linear and logistic regression results for fathers were generally similar, with a few exceptions. Both very young fathers and older fathers were at risk of extreme negative feelings. Widowed fathers and never married fathers were not significantly different from married fathers. Only poor fathers not receiving welfare were at significantly greater risk of negative feelings, not those receiving welfare (analysis tables 2-4 and 2-6).

Figure 2-8. Formerly married parents experienced more depression and upset, even after adjustments for related factors



Source: N. Zill (1998). Tabulation of data from 1991 National Health Interview Survey. Negative feelings score adjusted for education, income, race, age, and other factors.

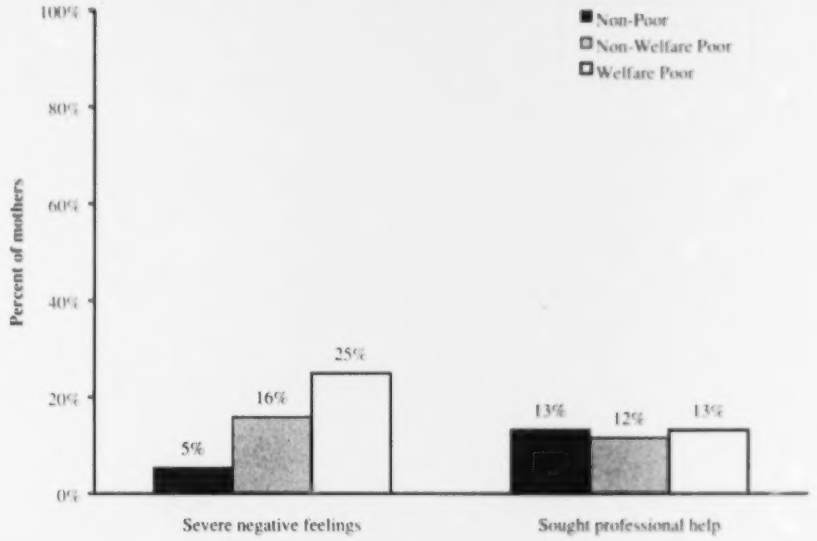
Psychological Help-Seeking Reflects Access to Care and Acceptability of Counseling As Much As Need

Variations across parental groups in rates of seeking professional help for personal or emotional problems seemed to reflect differences in access to care or in the acceptability of psychological counseling as much as it reflected the need for such care. For example, despite the lower frequency of negative feelings and equivalent levels of stress reported by highly educated mothers, psychological help-seeking was two-to-three times more common among mothers with college or graduate school education than it was among mothers who had not started or finished high school. Likewise, it was more common among parents from higher-income families than among those from lower-income households. Poor mothers were no more likely to get psychological help than non-poor mothers, despite experiencing more depression and upset (figure 2-9). Parents without health insurance had equal or lower rates of psychological help-seeking than parents with private health insurance, even though the former group exhibited greater need for psychological help than the latter (appendix table 3).

The following were some of the other relationships observed:

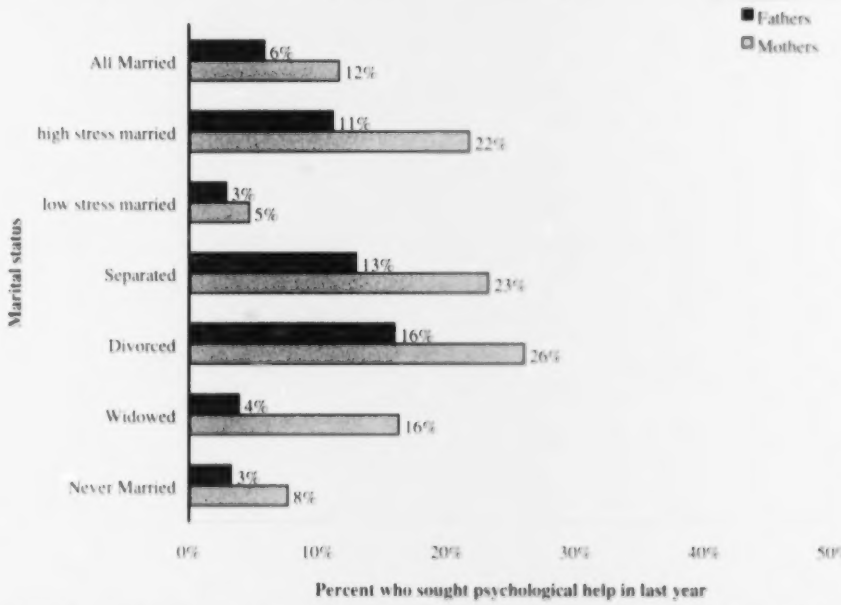
- Separated mothers and divorced mothers sought professional help at twice the rate of married mothers; (23.2 percent and 26.0 percent, respectively, versus 11.7 percent). The rate for widowed mothers (16.3 percent) was almost forty percent higher than that for married mothers, whereas the rate for never married mothers (7.7 percent) was lower (figure 2-10).

Figure 2-9. Poor mothers no more likely to get psychological help than non-poor, despite experiencing more depression and upset



Source: N. Zill (1997). Tabulation of data from 1990 and 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 2-10. Separated and divorced parents twice as likely to have sought help



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- Married mothers who reported a lot of stress in their lives also sought help at a higher rate (21.7 percent), equivalent to those for separated and divorced mothers, and four times higher than the rate of help seeking among married mothers who reported low levels of stress (4.7 percent) (figure 2-10).

- Fathers who were single parents showed a similar pattern of help seeking, with the exceptions that widowed fathers and never married fathers had lower rates of seeking professional help than married fathers. Married fathers who experienced high levels of stress sought professional help at three times the rate of married fathers who reported low stress levels (figure 2-10).

- Working mothers, homemaker mothers, and student mothers did not differ significantly with respect to the frequency of seeking psychological help in the last year. Only disabled and retired mothers showed elevated rates of help seeking. Among fathers, those who were at home showed three times the rate of help seeking as those who were employed (appendix table 3).

- Psychological help seeking showed a curvilinear pattern with age among mothers, but a more linear increase with age among fathers. Mothers aged 35-39 were twice as likely to have sought professional help for emotional problems in the last year (17.8 percent) as mothers aged 18-24 (7.7 percent) or those aged 50-54 (8.7 percent). By contrast, fathers aged 50-54 were most likely to have sought help (9.7 percent), with double the rate of help seeking of those aged 18-24 (4.0 percent) or those aged 25-29 (4.6 percent) (appendix table 3).

- Black and Hispanic mothers were less likely to have sought help than white mothers (8.9 percent and 9.5 percent versus 14.7 percent). A similar pattern was found among fathers, though with consistently lower rates of help-seeking.

- Immigrant parents sought help at half the rate of native-born parents (appendix table 3).

- Psychological help seeking was equally prevalent among mothers with Medicaid coverage (13.8 percent) and those covered by private insurance (13.7 percent). Both groups were significantly more likely to have sought care than mothers not covered by health insurance (10.7 percent). Fathers covered by Medicaid showed a higher rate of help seeking (9.3 percent) than those covered by private insurance (5.8 percent) and non-insured fathers (5.5 percent).

- Neither mothers nor fathers showed significant variation across the welfare and poverty groups in the frequency of seeking professional help for emotional problems (appendix table 3).

Multivariate findings. When multiple logistic regression analysis was used to model the joint influence of demographic and socioeconomic factors on psychological help-seeking, education and income proved to be positively associated with obtaining counseling or therapy. Parents with higher levels of schooling and earnings were *more* likely to seek professional help for personal or emotional problems than those with lower levels, other things equal (analysis tables 2-7 and 2-8). Age was not significantly associated with help-seeking, except for a tendency for young mothers *not* to get the assistance they might need. Formerly married mothers and fathers had two-to-three times higher odds of seeking help than currently married parents. But married parents under high stress also had elevated levels of help-seeking, compared with married parents experiencing little stress (analysis tables 2-9 and 2-10).

Working mothers were neither more nor less likely to get help than other mothers, while working fathers were considerably less likely to seek counseling than non-working fathers. Welfare and poverty status were not associated with help-seeking. African-American mothers and immigrant parents of both sexes were less

likely to get help, other things equal (figures 2-11 and 2-12).

Mental Health Implications of Changing Family Behavior

Let us now try to answer the research questions raised at the beginning of this chapter about recent increases in older parenthood, single parenthood, and maternal employment, and the persistence of family poverty. What do the observed group differences tell us about the impact of changing family behavior on parents' mental health?

Morale of Older Parents Is Better, Not Worse

The findings on parents' emotional well-being indicate that older parenting does not mean greater stress or more depression or upset for American parents. Older parents reported no more stress and *fewer* negative feelings than parents in what used to be considered the prime childrearing ages (the late twenties and early thirties). Older parents were neither more nor less likely to seek professional help for emotional problems. If anything, the evidence underscores the undesirability of entering into parenthood at very young ages. Mothers and fathers who were 18-24 years of age showed high levels of negative feelings, but quite low levels of getting professional help for emotional problems.

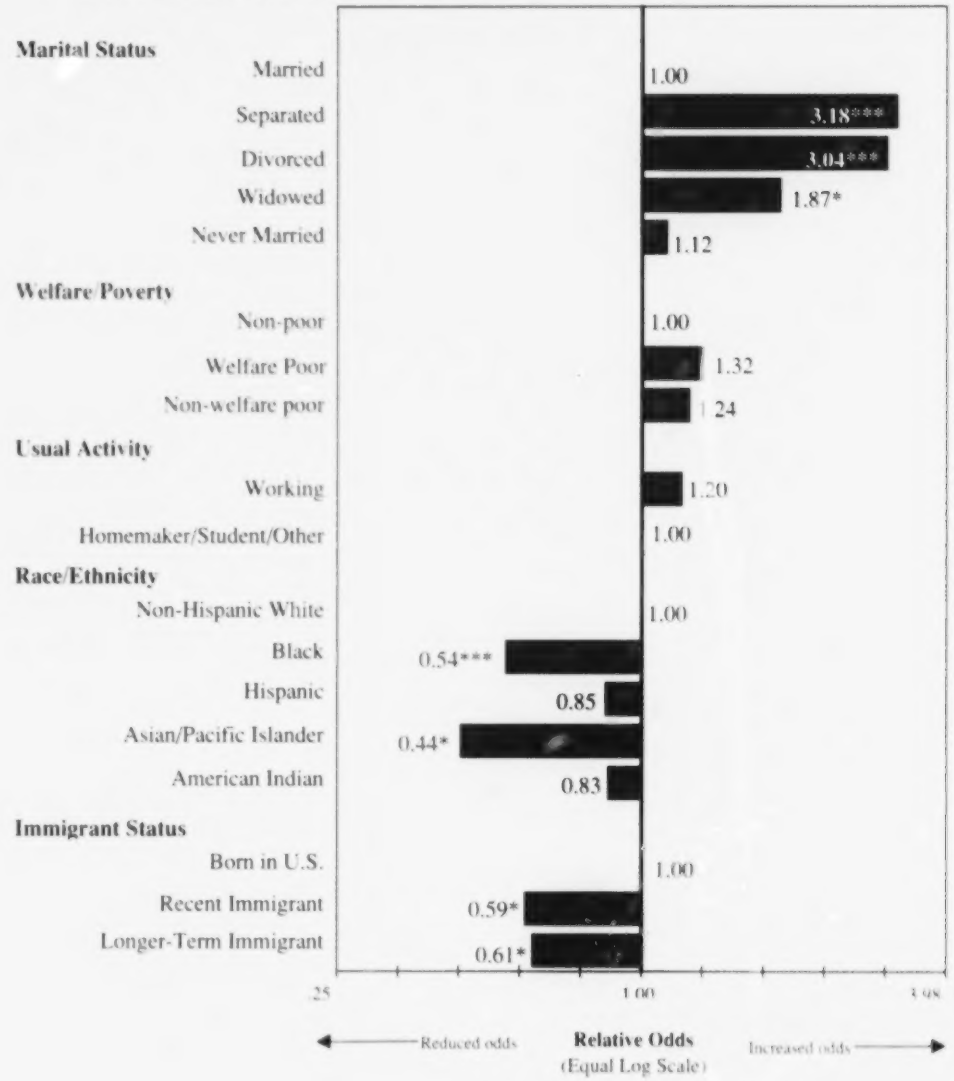
The one exception to the above conclusions about older parents is that the oldest group of fathers (those in their fifties) did show higher rates of depression and other negative feelings than younger and middle-aged fathers, and some tendency to seek professional help more frequently. The same tendencies were not found among mothers.

Mental Health of Separated and Divorced Parents Is Poor

By contrast, the findings show that the trend toward more single parenting *is* in all likelihood increasing the proportion of parents whose task performance is impaired by emotional stress, depression, and upset. Separated and divorced mothers and fathers were clearly prone to higher levels of stress, sadness, and help-seeking, and these increased risks remained when factors such as income, education, and employment were controlled. At the same time, the findings showed that the answer is not necessarily for parents to stay married no matter what. Married parents in high stress situations were essentially as likely as separated or divorced parents to be seeking professional help for their emotional problems.

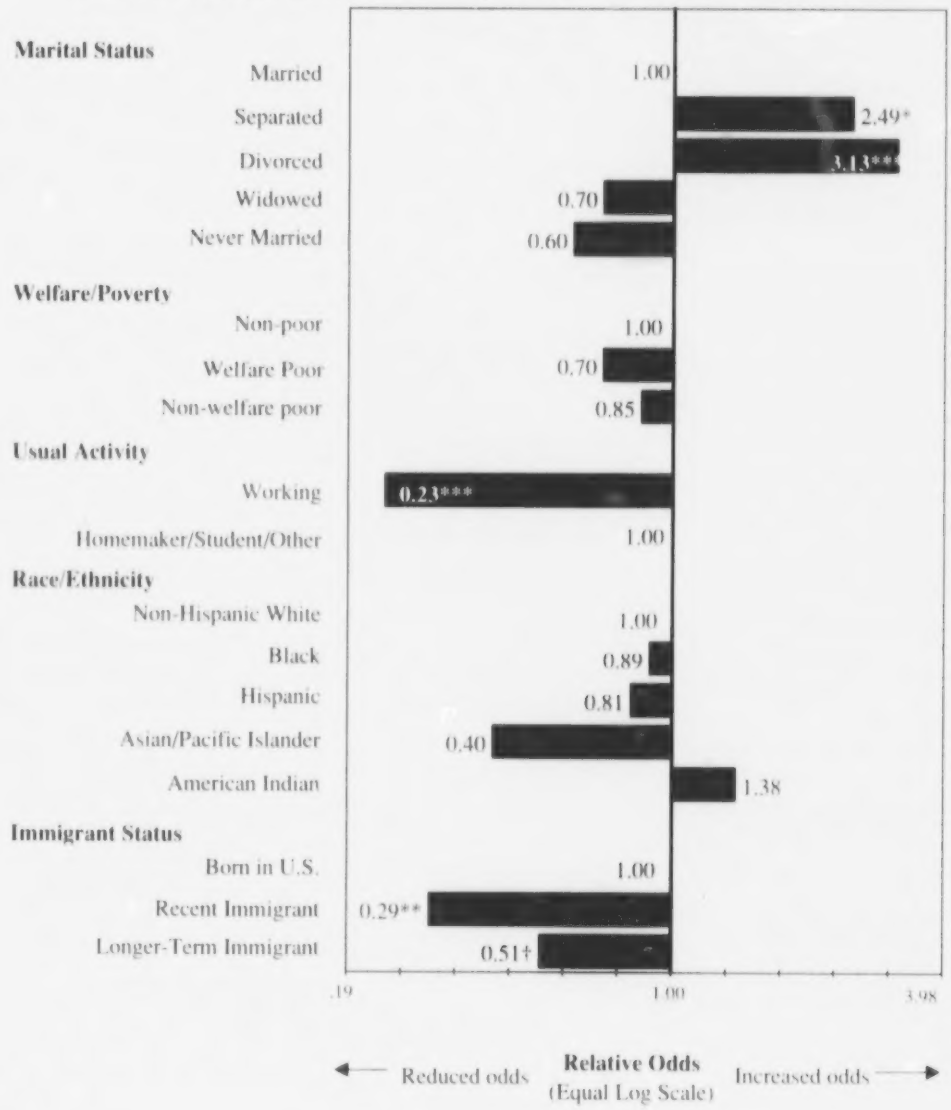
The evidence was more ambiguous about the emotional well-being of *never* married parents as opposed to *formerly* married parents. When socioeconomic factors were controlled, mothers who were rearing children born outside of marriage were no more likely to report stress or help-seeking than married mothers. However, they did have feelings of depression, loneliness, upset, and boredom more often than married mothers. These mothers seem to avoid the stress of marital conflict, but other aspects of their lives are apparently causing unhappiness. And it is not just financial need that is responsible for the unhappiness, as some have theorized, for the higher level of negative feelings remained when poverty and low income were controlled.

Figure 2-11. Separated and divorced mothers have greater odds of seeking psychological help, whereas minority and immigrant mothers have lesser odds



Note: Relative odds of seeking help adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression of analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 2-12. Separated and divorced fathers have greater odds of seeking psychological help, whereas employed fathers and immigrant fathers have lesser odds



** = reliably greater (or less than) 1.00*

Note: Relative odds of seeking help adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression of analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Employed Mothers Exhibit More Stress, Less Depression

The survey evidence was also ambiguous with respect to the emotional implications of the increase in the numbers of parents who try to balance work and family obligations on a daily basis. Working mothers clearly experienced more stress than parents who played the single role of homemaker. On the other hand, employed mothers showed *lower* levels of depression, boredom, loneliness, restlessness, and upset than homemaker mothers. And they were no more likely to seek professional help for emotional problems than homemaker mothers. On balance, the findings suggest that the increase in maternal employment is not having dire consequences for the emotional health of the American mother.

Interestingly, mothers who were in school showed relatively high levels of both stress *and* other negative feelings. This suggests that the transitional and economically insecure role of student mother may be more difficult than either the role of full-time homemaker or that of employed mother.

With respect to fathers, the findings were that employed fathers showed lower levels of negative feelings and help-seeking than fathers who were at home and not in the conventional social role of male breadwinner. These findings may be due primarily to selection, i.e., men with serious emotional problems were less likely to be in the paid labor force. Another possible interpretation of these results is that is difficult for men to adjust to family situations in which they are called on to work fewer hours outside the home and shoulder more of the burden of child care and homemaking.

Low-Income Parents More Likely To Experience Depression and Upset, Less Likely To Get Help

The survey findings suggest that increasing economic inequality and persistent poverty among families with children is extracting a toll on the emotional well-being of American parents. Parents in low-income families experience more frequent feelings of depression, loneliness, boredom, agitation, and upset than parents whose financial circumstances are more adequate. The proportions of mothers and fathers whose emotional symptoms are serious enough to warrant clinical attention are several times higher in low-income families. Yet parents in these families are less likely to receive professional help for these potentially debilitating emotional states than parents with higher incomes and education levels.

Implications of Mental Health Findings for Health Care and Welfare Policies

Several of the survey findings with respect to parents' emotional well-being have implications for health care and welfare policy debates. Here are some of the more obvious ones.

Health care policy. The high rates of psychological symptoms among mothers and fathers point to the need for the managed care systems that serve all parents to include more than minimal coverage of mental health services. Another finding with policy significance is that the negative emotion levels of non-covered parents were higher than those of parents with private health insurance, but their rate of seeking psychological care was lower. This shows that an unmet need exists for psychological care for these parents, and a likely cause of this deficiency (though perhaps not the only one) is the gap in insurance coverage.

Like the general health findings, the mental health results underscore the conclusion that the Medicaid population is a high needs group for whom it is costly to furnish care. Medicaid parents had higher levels of stress, and much higher levels of negative feelings than parents with private health insurance. Comparison of the psychological care frequency of the Medicaid

population with that of the non-covered population suggests that Medicaid is making a difference in enabling low-income parents to receive some mental health care. However, the evidence also indicates that there continues to be an unmet need for psychological care among Medicaid parents. This is shown by the finding that, while Medicaid mothers had higher rates of stress, depression, and upset than mothers covered by private insurance, they had rates of behavioral care that were only comparable to, not higher than, the rate found among privately insured mothers.

Welfare policy. Welfare mothers showed more stress and negative feelings than non-poor mothers, and more negative feelings than non-welfare poor mothers. Like their general health problems, the high levels of depression and upset observed among welfare mothers may act as obstacles to moving welfare recipients from dependency to stable employment. Though a change in life circumstances may be beneficial to the mental health of some welfare mothers, in other instances it may be necessary to treat emotional impairments before progress can be made toward self-sufficiency. A disquieting finding from the perspective of moving welfare mothers into job-related training and then into the labor force is that mothers who were students had higher levels of both stress and negative feelings.

The finding that poor mothers and fathers who are not "on welfare" have elevated rates of stress and negative feelings suggest that moving parents from welfare dependency to low-income employment will not necessarily boost their morale and solve all their emotional problems. The high rate of negative emotions among the non-welfare poor underscores the conclusion that working poor families need access to adequate health care, including mental health care.

Implications of Mental Health Findings for Stress, Resources, and Dysfunctional Behavior Theories

The survey findings with respect to parents' emotional well-being have implications for the three theories described earlier that may help to explain the associations between family living situations and parent health. How well did the predictions of stress theory, resources theory, and dysfunctional behavior theory accord with what was actually observed?

Parents Report More Stress In Family Situations Expected To Produce Stress

The findings on emotional well-being were generally consistent with stress theory in the sense that when parents were in family situations in which we expected them to experience more stress, they did indeed report more stress or more negative feelings like depression or upset. This was certainly the case for separated, divorced, and widowed parents. It was less clearly true of never married parents, but this was also expected (because never married parents are less likely to experience the stress of marital conflict). Never married mothers did not report more stress than married mothers, but they did report more depression and upset. Parents in poverty, whether on welfare or not, reported more stress and other negative feelings than non-poor parents.

Family situations that elicited more frequent reports of stress or depression were usually situations in which parents were more likely to seek professional help for emotional problems. Exceptions to this rule seemed to be due to some groups of parents having less access to psychiatric care or to cultural factors that made some groups reluctant to seek professional counseling for emotional problems.

The case of parental employment was not supportive of stress theory, or at least the findings there were more ambiguous. Mothers who worked outside the home reported more stress than mothers who were full-time homemakers, but the former group reported *less* depression, boredom, and upset than the latter. As was noted in the previous chapter, the general health status of working mothers was better, not worse than that of stay-at-home mothers. Thus, in this instance we seem to have elevated stress without deleterious health effects. Perhaps the lack of accompanying depression and upset means that the kind of stress working mothers experience is not as detrimental to health as the kinds produced by marital conflict, marital disruption, or persistent poverty. But this would mean that stress theory needs to be elaborated to explain when stress is or is not potentially hazardous to a person's health.

Parents With Fewer Resources Have Worse Mental Health

The findings on emotional well-being were broadly consistent with the notion that people who have fewer economic and informational resources tend to have more mental as well as physical health problems. Parents in low income and education strata were several times as likely to experience depression, agitation, boredom, loneliness, and upset as parents with higher earnings and more schooling. However, parents with fewer resources did not report more stress than those with ample resources, unless their resources were so meager that they fell below the official poverty level.

Another finding that seems to contradict or at least challenge resource theory is that parents with only grade school education reported fewer negative feelings than parents who were high school dropouts. Most of the low-education parents were recent immigrants to the U.S., and immigrant parents as a group reported lower levels of negative feelings and stress than native-born parents. This suggests that parents' emotional well-being may not be a simple increasing function of the material and cultural resources they possess. There may be something about the values and codes of conduct that immigrant parents bring with them from traditional agricultural societies that are more conducive to emotional well-being than are the values and behavior patterns that predominate in many urban areas of the U.S.

Other factors may play a part in accounting for the differences between the variation in reported stress across education and income groups and the variation in negative feelings. One is that stress may have different meanings and sources at the low and high ends of the socioeconomic scale. The proportion of parents reporting a lot of stress may be similar across socioeconomic groups, but the stress referred to may be quite different. Another issue may be the extent to which low-education parents, especially those with limited English proficiency, understand the meaning of the term stress and the other psychological terms in the negative feelings scale. Parents with limited school may have reported less stress because they were unsure or had mistaken notions about what the questions were asking.

With respect to the lower frequency of psychological help-seeking among parents with lower education and income levels, the explanation seems to be that these groups have less access to such care or find it less natural to make use of psychological therapy or counseling for such problems. To the extent this was so, it supports the resource theory idea that differences in care may be one of the mechanisms by which differences in resources gets translated into differences in health status. Parents covered by Medicaid, who could have access to psychological care had higher rates of utilization than parents without health insurance coverage. Once again, however, the higher rates of care utilization were not associated with better health. Medicaid parents exhibited more stress and negative feelings than parents with private health insurance and those with no insurance.

Cash Assistance and Access To Care Do Not Eliminate Stress and Depression

As with the data on general health status, the survey findings on parents' emotional well-being were at least partly supportive of the notion that dysfunctional behavior is often responsible for both financial poverty and poor mental health. Low-income mothers receiving welfare reported more stress and negative feelings than low-income parents not receiving welfare, as well as more than non-poor parents. This was found despite the fact that welfare mothers got cash support without having to earn it on a job, and had access to psychological counseling through Medicaid. The welfare parents received cash assistance and could receive mental health services, but still displayed relatively poor mental health. Advocates of the dysfunctional behavior theory would argue this was because the cash assistance and services served to maintain detrimental conduct patterns that got the mothers into their unhappy state to begin with.

Those wishing to rebut this argument could point out that the mental health differences between welfare and non-welfare poor groups were smaller than those between the poor groups and the non-poor. Among fathers, it was the non-welfare poor who showed more negative feelings. Further, we still have not established that welfare parents do, in fact, engage in dysfunctional behavior more frequently than parents in poor families not receiving welfare or parents in non-poor families. Lacking such evidence, one could contend that pre-existing psychological conditions could be responsible for the financial situation of welfare mothers and their higher levels of stress and negative feelings. Findings on the health-related behavior of welfare and other parents are presented in the next chapter.

Chapter 3

Parents Whose Behavior Puts Their Health At Risk

The major diseases that debilitate and kill people nowadays, namely, heart disease, stroke, and cancer, are slowly-developing conditions whose onset and course are influenced by people's habits and lifestyles. Long-term epidemiological studies have shown that the risks of developing cardiovascular disease and cancer are significantly lower in people who do not smoke cigarettes, do not drink a lot of alcohol, are not sedentary, do not allow themselves to become overweight, and take steps to control their blood pressure.[1]

Violence and unintentional injury are also major causes of death and disability in the U.S. There are specific behaviors, like excessive drinking and driving while intoxicated, that dramatically increase the risk that a person will suffer accidental injury or become involved in a violent incident.[2] Other behaviors, such as always using seat belts when riding in a car, reduce the risk of unintentional injury.[3]

Because of their demonstrated connection to disease and injury prevention, behaviors such as these are often referred to as *behavioral risk factors* or *health-related behaviors*. There are other habits whose link to specific diseases or injuries is less clear cut, but that have been found to be associated with less frequent illness and lower mortality in longitudinal health studies. These include following a regular exercise regimen, getting 7-8 hours of sleep per night, eating breakfast daily, and avoiding between-meal snacks.[4]

To what extent do American mothers and fathers avoid known risky behaviors and practice positive health habits in their daily lives? Parents have more than the usual reasons for leading a healthful lifestyle. As well as avoiding the pain, suffering, and activity limitations that come with illness or injury, parents have an obligation to do all they can to stay healthy in order to be able to work to support their families and carry out their childrearing responsibilities.

High-risk behaviors like smoking and aggressive driving can have a direct negative effect on the health of children. Parents who engage in risky behaviors and do not adhere to good health habits set a bad example that their offspring may follow when they become teenagers or young adults. So, it is important to ask what kind of example American parents are setting for their children with respect to health-related behaviors, and how health behaviors vary across different groups of parents.

Research Questions About Parents' Health-Related Behavior

The research questions that guided analysis of parents' health-related behavior had to do with whether differences in such behavior might help to account for observed differences in health status across groups of parents. They aimed at revealing how trends in family living patterns might be affecting the prevalence of high-risk behavior and healthy habits in the future. They were also aimed at testing predictions from stress theory, resources theory, and dysfunctional behavior theory, three theories that may help explain the link between family living situations and parents' health. The following were some of the specific questions addressed in these analyses:

- Do older parents engage in risky behaviors like smoking and drinking heavily more frequently than parents in their late

twenties or thirties? Or do they engage in such behavior less frequently, as might be expected because of their greater maturity, or their educational and economic advantages over younger parents? What about very young parents (those in their teens and early twenties)? What is their health behavior like?

- Do parents with high levels of education and income engage in risky behavior less often and practice healthy habits more often than parents with lower levels of education or income?
- Do parents who are separated or divorced engage in risky behaviors more often than parents who are married and living with their spouses? What about parents who have never married or married parents who have experienced a lot of stress?
- Do employed parents, especially working mothers, engage in risky behavior more often or less often than parents who are full-time homemakers?
- Do parents without health insurance engage in more risky behavior and practice fewer preventive habits than parents with private health insurance coverage? What about parents whose health care is covered by Medicaid? What is their health-related behavior like?
- Do low-income parents who receive cash welfare payments engage in less risky behavior than poor parents who do not receive welfare, as resources theory would predict? Or do they exhibit equally or even more risky behavior, as dysfunctional behavior theory would predict?

Indicators of Risky Behavior and Healthy Habits

Looking at the frequency and distribution of risk behaviors individually is useful for understanding the factors that are associated with persons engaging or not engaging in a particular behavior. But it is also important to examine how many parents engage in *any* of the major risk behaviors because, in order to lead a healthy lifestyle, a person needs to avoid *all* risky behaviors, not just one or two. It does less good for a parent to stop smoking if he or she then proceeds to start eating or drinking heavily. Previous research on adult risk behavior has generally not looked at behaviors like smoking, drinking, and overeating in a combined fashion. In the present study, we used national survey data to create an indicator based on several behaviors that have been shown to be directly detrimental to an individual's health. We created another indicator based on several behaviors that are believed to be beneficial for or protective of a person's health.

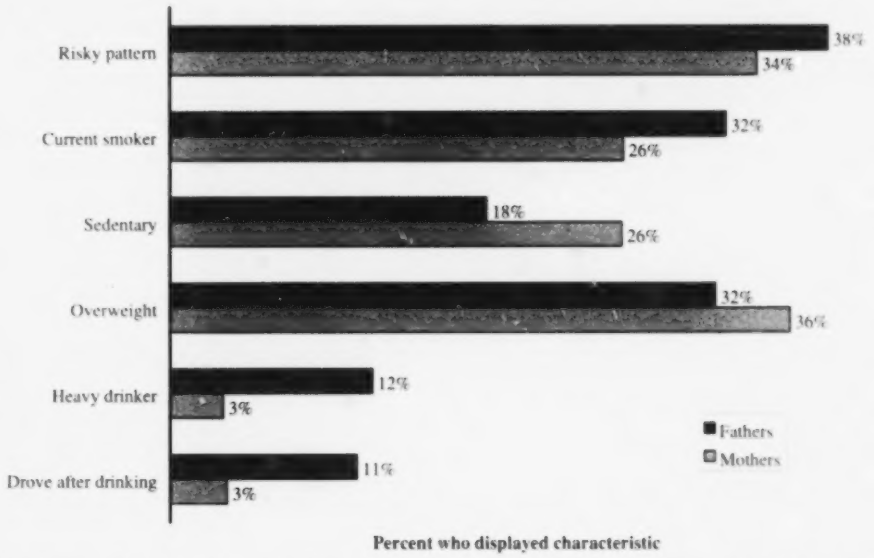
High-risk health behavior. Parents qualified for a "yes" on the High-Risk Health Behavior indicator if they said they were **current smokers**, *or* if they had two or more of four other risk characteristics.[5] The other risk characteristics were:

- being **sedentary**, meaning they engaged in *no* exercise, sports, or physically active hobbies in the past 2 weeks, and neither their job nor their main daily activity required a "great deal" of hard physical work;
- being **overweight**, meaning they classified themselves as "very" or "somewhat" overweight;[6]
- being a **heavy drinker**, meaning they acknowledged having 4 or 5 or more drinks per day on average; and
- **driving after drinking** "too much" on one or more occasions in the past year.

Good health habits. Parents qualified for a "yes" on the Good Health Habits indicator if they satisfied three out of five criteria. The criteria were:

- **using a seat belt** "all or most of the time" when driving or riding in a car;

Figure 3-1. One in three mothers and four in ten fathers engaged in risk behavior



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- **sleeping 7-8 hours** per night on average;
- **eating breakfast** "almost every day";
- **"rarely or never" snacking between meals**; and
- **exercising or playing sports regularly** for a year or more.

National health survey data were used to examine the prevalence of both the High-Risk Health Behavior pattern and the Good Health Habits pattern among U.S. parents in general, and among specific subgroups of the parent population. Results are shown in figures 3-1 through 3-12. They are presented more fully in tables 5 through 10 of the appendix tables and analysis tables 3-1 through 3-4.[8]

One Mother in Three and Four Fathers in Ten Engaged In Risky Behavior Pattern

Many American parents are not setting a good example for their children in terms of health-related behavior. Among U.S. mothers living with children under 18 years of age, one in three (34 percent) exhibited a high-risk behavior pattern; that is, she was currently a smoker, or she was sedentary and overweight, or she drank alcohol heavily and had driven after drinking too much (figure 3-1). The frequencies of the individual behaviors that made up the high-risk pattern were as follows:

- More than one mother in four (26 percent) was a current smoker.
- More than one mother in four (26 percent) was sedentary, i.e., the mother had not engaged in any sport or exercise activity in the last two weeks and no strenuous

physical effort was involved in her regular job or housework.

- Not surprisingly, given this lack of exercise, more than one mother in three (36 percent) considered herself overweight.
- One mother in thirty (3 percent) was a heavy drinker; i.e., she admitted to drinking 4 or 5 or more glasses of beer, wine, or whiskey per day.
- The same fraction—one in thirty, or 3 percent—reported having driven after drinking too much on one or more occasions in the past year.

Risk-taking fathers. The high-risk pattern was even more common among U.S. fathers living with children under 18. Nearly 4 fathers in every 10 (38 percent) were current smokers or engaged in two or more of the other risky behaviors mentioned above (figure 3-1). The prevalence rates for the component risk behaviors among fathers were as follows:

- One father in three (32 percent) was a current smoker.
- One in five (18 percent) was sedentary.
- Although less than one father in five (19 percent) considered himself overweight, nearly one in three (32 percent) reported a numerical weight that was twenty percent or more heavier than the desirable body weight for his height.
- One father in nine (12 percent) was a heavy drinker.
- About the same fraction—one in nine, or 11 percent— had driven after drinking too much in the past year.

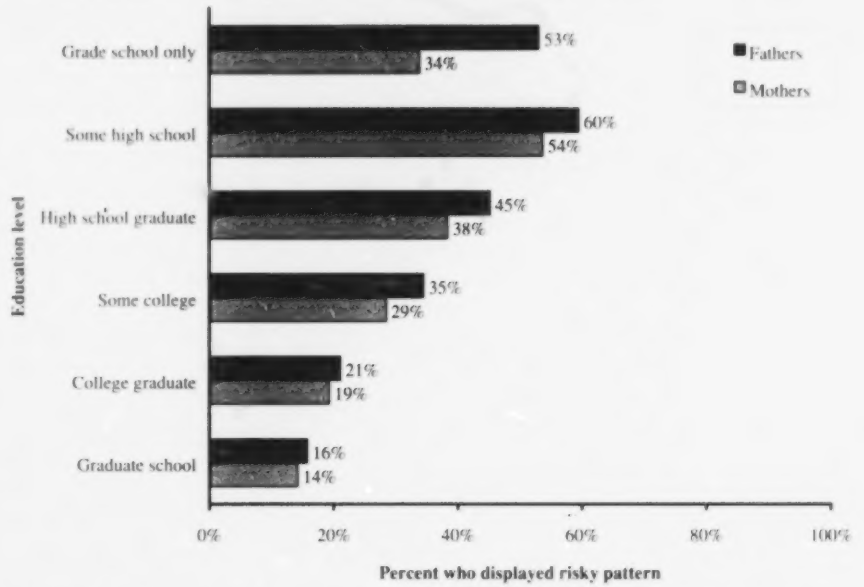
Fathers versus mothers. More fathers than mothers were smokers and three-to-four times as many fathers were heavy drinkers or had driven after drinking. Only with respect to being sedentary were there clearly fewer fathers than mothers who exhibited the high-risk characteristic. It is interesting to note that more mothers than fathers perceived themselves to be overweight (36 percent versus 19 percent), although when parents reported their height and weight, fewer mothers than fathers were determined to be twenty percent or more above the desirable body weight for their height (25 percent versus 32 percent). Data from the National Health and Nutrition Examination Survey, a study in which the heights and weights of national samples of women, men, and children are measured directly, indicates that roughly equivalent proportions of women and men in the 20-44 age range are overweight.[7] This suggests that men are less accurate than women in their self-perceptions of portliness. But women seem to be less truthful (or more hopeful) in reporting their numerical weights.

Lower Education and Income, Marital Disruption Associated with Risky Behavior

The prevalence of the high-risk behavior pattern and the individual characteristics that made up the pattern showed substantial variation by parent education and family income, as well as differences related to the parent's marital situation, immigrant status, age, race and ethnicity, and welfare and poverty status. Mothers and fathers who had higher education levels and higher family incomes generally showed less risky behavior than parents with lower education and income levels (figure 3-2). Some of the specific differences observed were as follows:

- Among parents who had not completed high school, a 54-percent majority of mothers and a 60-percent majority of fathers exhibited the high-risk pattern, whereas among parents who were college graduates or more, the proportion engaging in risky behavior was one in five or less. Lower-education parents were more likely to smoke, drink heavily, and be overweight and sedentary.

More educated parents less likely to engage in risky health behavior



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- Although high-risk behavior declined with increasing education, mothers with very little formal schooling showed significantly *less* risky behavior than mothers who had attended but not completed high school. Thus, 34 percent of mothers with a grade-school education only (i.e., eighth grade or less) displayed the high-risk pattern, compared with 54 percent of high-school dropout mothers. A similar but less pronounced curvilinear pattern was observed among fathers.

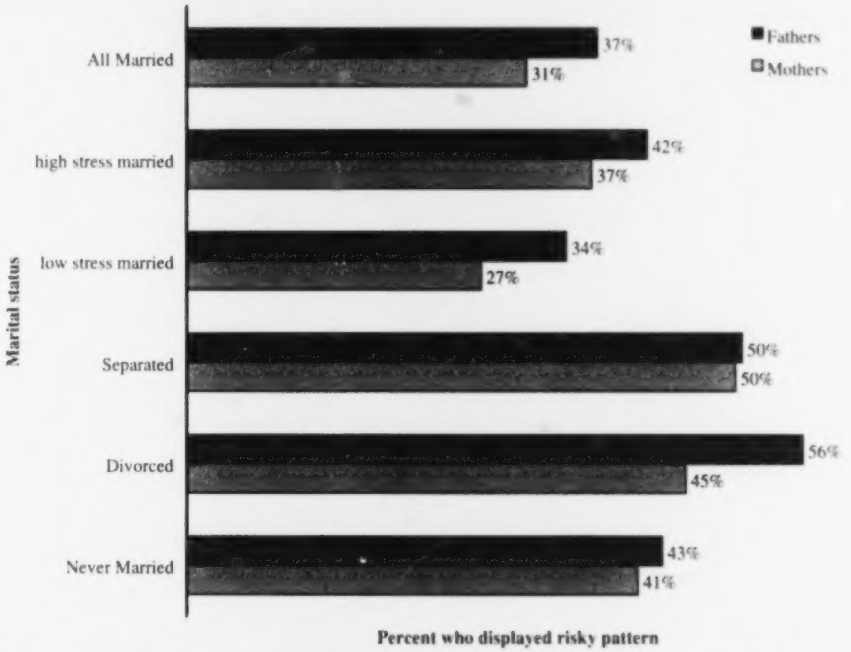
- Many of the low-education parents were recent immigrants to the United States. Recent immigrants as a group showed lower rates of high-risk behavior than native-born parents. Among mothers, for example, recent immigrants were only half as likely to display risky behavior (18 percent versus 36 percent). Immigrants who had been in this country longer fell in-between: 24 percent of these mothers showed the high-risk pattern.

- Half of mothers and 61 percent of fathers in families with incomes below $10,000 engaged in risky behavior. These parents were twice as likely to display the pattern as mothers and fathers with incomes of $50,000 or more. Lower-income parents were more likely to smoke, drink heavily, be sedentary, and, among mothers, be overweight.

- Half of separated mothers and fathers engaged in risky behavior, compared with 31 percent of married mothers and 37 percent of married fathers. Among divorced parents, 45 percent of mothers and 56 percent of fathers displayed the risky pattern (figure 3-3). The risky behaviors that formerly married parents engaged in at higher rates were primarily smoking and heavy drinking.

- Married parents who experienced a lot of recent stress exhibited more risky behavior

Figure 3-3. Half of separated and divorced parents engaged in risky behavior

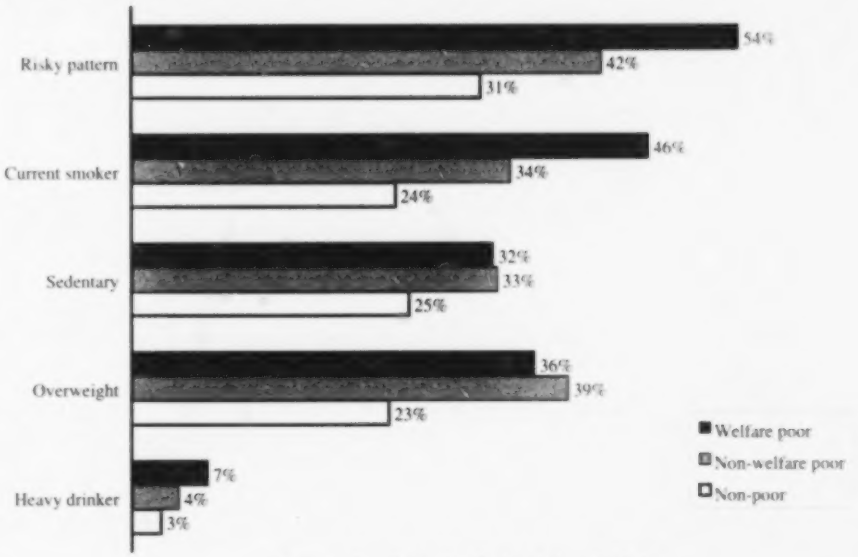


Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

than married parents who experienced little stress (figure 3-3). Smoking, drinking heavily, and driving after drinking were the risk behaviors that the high-stress marrieds engaged in at higher rates. They were *less* likely to be sedentary than the low-stress marrieds.

- The prevalence of most risky behaviors declined with increasing parental age among both mothers and fathers. A notable exception was being overweight, which doubled in frequency across the age span examined, going from 21 percent among mothers aged 25-29 to 44 percent among those aged 50-54. Among fathers, it went from 20 percent among those aged 18-24 to 39 percent among those aged 50-54.
- High-risk behavior was no more frequent among black mothers, and less common among Hispanic and Asian mothers, than among white, non-Hispanic mothers. One exception was being overweight, which was twice as common among African-American mothers as among white mothers (appendix tables 5 through 7).
- Among fathers, black and Hispanic men showed the high-risk pattern at higher rates than white men. This was primarily a function of more black and Hispanic fathers smoking, and more Hispanic fathers drinking heavily (appendix tables 5 through 7).
- A 54-percent majority of welfare mothers showed the high-risk behavior pattern, compared with 42 percent of poor mothers not receiving welfare, and 31 percent of non-poor mothers (figure 3-4). Majorities of poor fathers engaged in high-risk behavior, both those receiving welfare (62 percent) and those not (54 percent). The comparable rate for non-poor fathers was 37 percent.

Figure 3-4. A majority of welfare mothers engaged in risky behavior



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

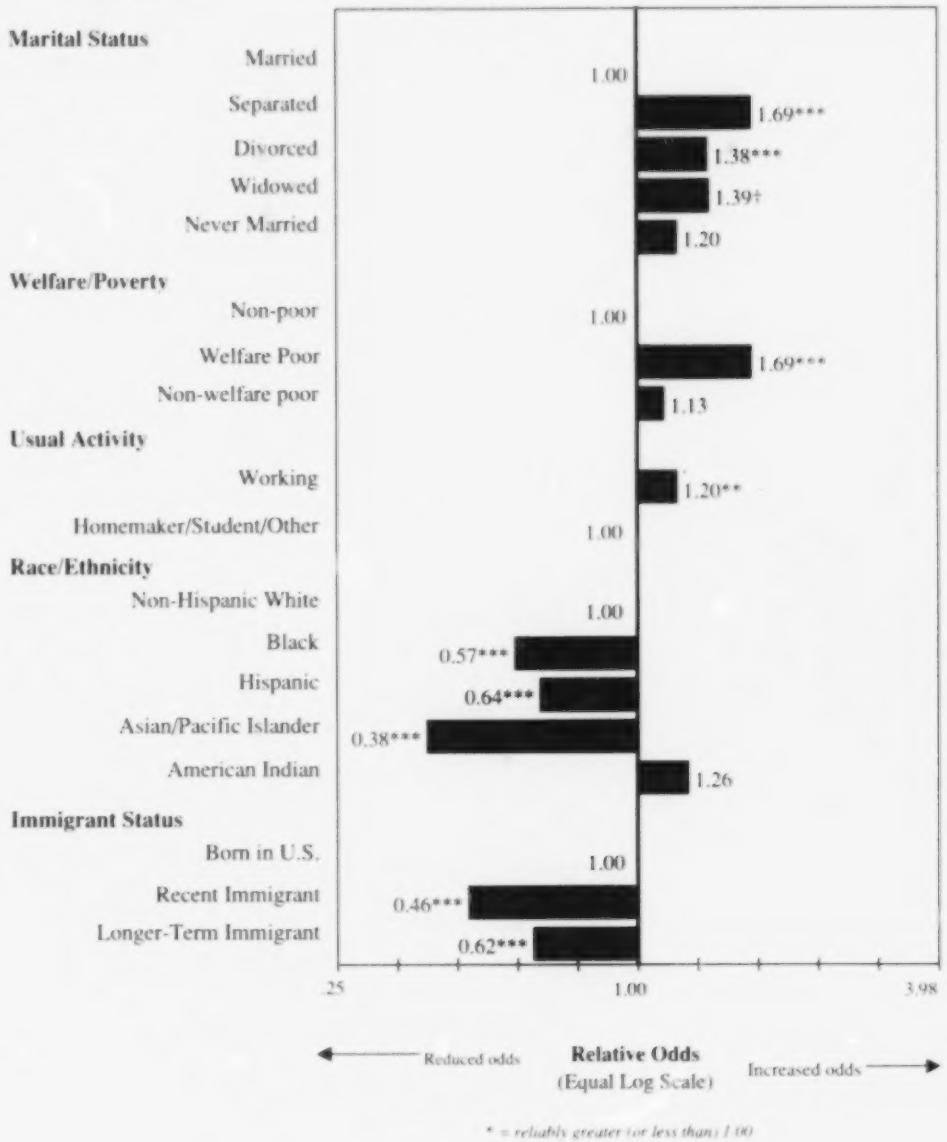
- Parents without health insurance coverage and those covered by Medicaid showed more risky behavior than mothers and fathers with private health insurance coverage.
- Employed mothers were no more likely to engage in risky behaviors than mothers who were full-time homemakers. Employed fathers were less likely to display risky behavior than fathers who were at home (appendix tables 5 through 7).

Multivariate results. When multiple logistic regression analysis was used to model the joint influence of demographic and socioeconomic characteristics on health-related behavior, lower parent education levels proved to be most closely associated with the risky behavior pattern (analysis tables 3-1 and 3-2). Lower income levels were also linked with detrimental conduct, but education was the stronger predictor. As in the bivariate findings, having a grade-school education was less of a risk than being a high-school dropout. Mothers who were poor and on welfare had higher odds of engaging in risky behavior, even when their lower income was taken into account. The same was not true of poor mothers who did not receive welfare (figures 3-5 and 3-6).

Several observed relationships were altered by the multivariate analysis:

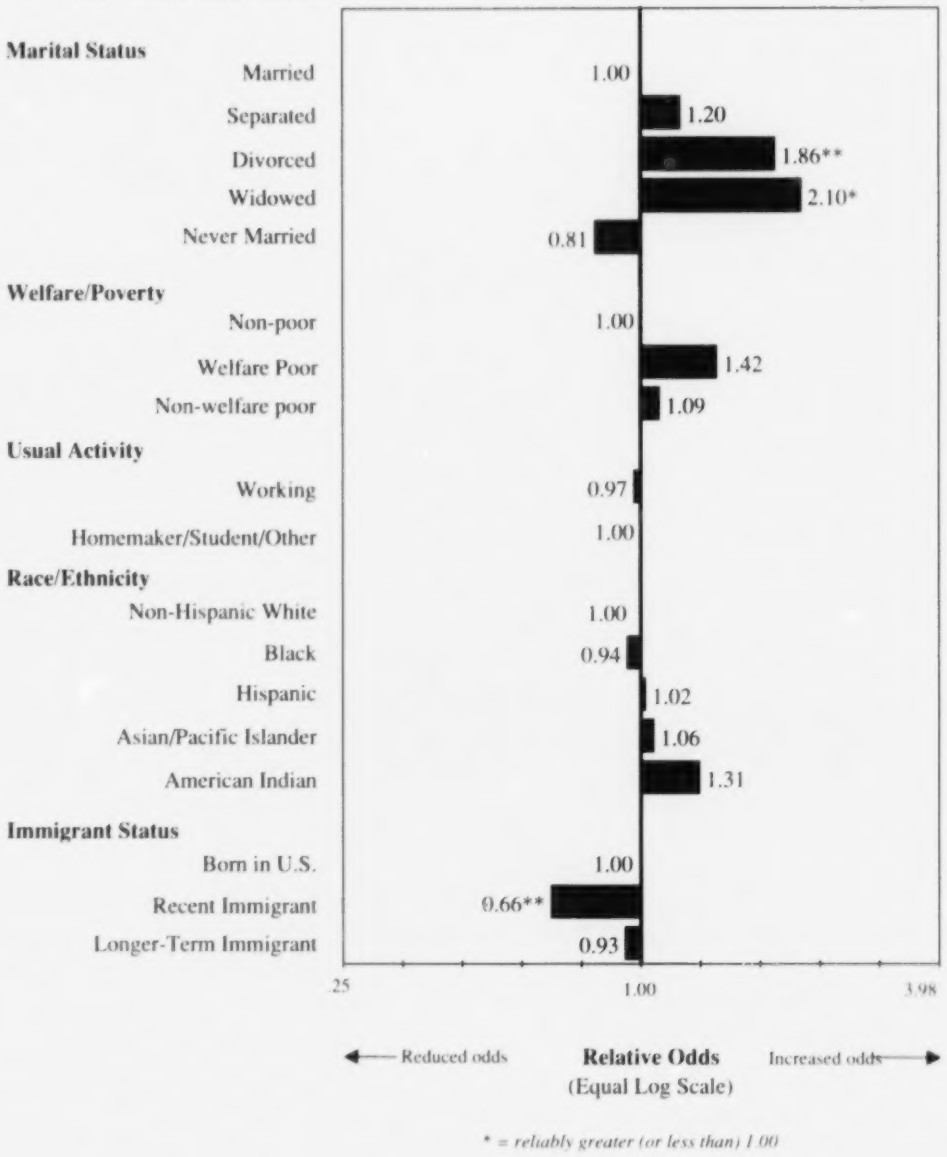
- When education and income disparities were controlled, black as well as Hispanic and Asian mothers had *lower* rates of high-risk behavior than white mothers. Among fathers, being black or Hispanic neither raised nor lowered the chances of risky behavior. Recent immigrant parents, both mothers and fathers, continued to show lower rates of risky behavior than native-born parents (figures 3-5 and 3-6).
- Separated mothers and divorced mothers and fathers continued to show higher rates of risky behavior than their married counterparts. However, never married

Figure 3-5. Separated and divorced mothers, welfare mothers, and working mothers were more likely to engage in high-risk health behavior, even when related factors were taken into account



Note: Relative odds of engaging in risky behavior adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 3-6. Divorced and widowed fathers were more likely to engage in high-risk health behaviors, whereas recent immigrants were less likely to do so, when related factors were taken into account



Note: Relative odds of engaging in risky behavior adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- mothers were no more prone to risky behavior when socioeconomic factors were controlled (figures 3-5 and 3-6).
- Among mothers, being older was no longer associated with lower odds of risky behavior, once education and income disparities were taken into account. Indeed, the youngest group of mothers (18-24 year-olds) was found to have a *lower* risk of detrimental conduct, other factors considered. Among fathers, older age was associated with a slight but significant *increase* in the chances of risky behavior (analysis tables 3-1 and 3-2).
- Although working mothers did not show higher rates of risky behavior in the raw correlations, they showed slightly higher odds of risky behavior once other factors were controlled. The same was not true for fathers (figures 3-5 and 3-6).

Less Than Half of Parents Practiced Preventive Habits

Less than half of American mothers (46 percent) or fathers (45 percent) set a good example for their children by engaging in three or more of the five preventive habits of always using seat belts, getting regular exercise, getting 7-8 hours of sleep per night, eating breakfast daily, and avoiding between-meal snacks (figure 3-7). Among mothers, the frequencies of the individual practices that made up the healthy habits profile were as follows:

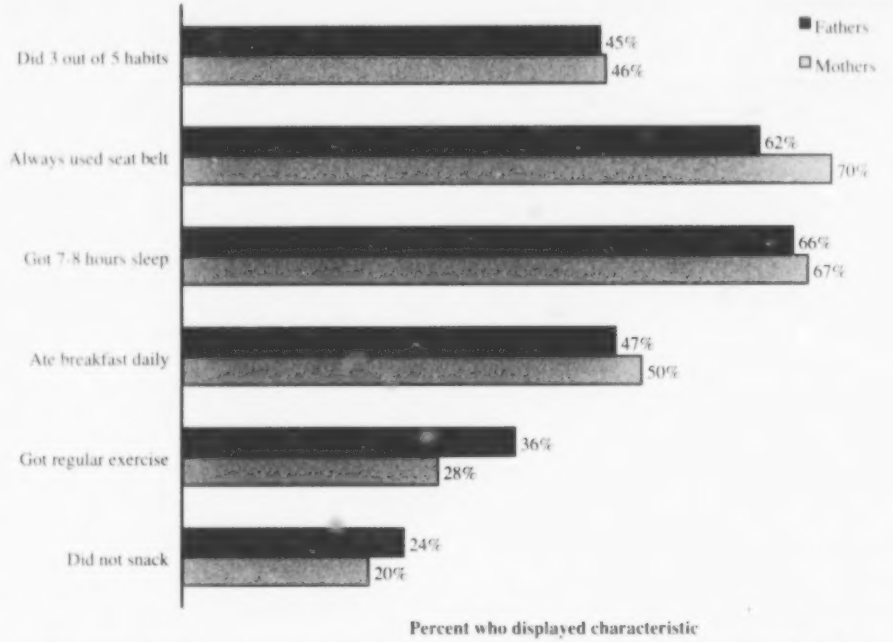
- Seven out of ten (70 percent) always used a seat belt when riding in automobiles.
- Two out of three (67 percent) usually got 7-8 hours of sleep per night.
- One mother in two (50 percent) ate breakfast daily.
- Only one mother in four (28 percent) had engaged in a regular exercise regimen for a year or more.
- Only one in five (20 percent) refrained from snacking between meals.

Although the overall frequency of the preventive habits indicator among fathers was similar to what it was for mothers, the frequencies of the individual habits that made up the profile were somewhat different (figure 3-7). The prevalence rates for the component habits among fathers were as follows:

- Six out of every ten fathers (62 percent) always used seat belts when riding in cars.
- Two out of three (66 percent) got 7-8 hours of sleep per night.
- Almost one in two (47 percent) ate breakfast daily.
- One father in three (36 percent) had engaged in a regular exercise regimen for a year or more.
- Only one in four (24 percent) refrained from snacking between meals.

Fathers versus mothers. Mothers set a better example than fathers in regard to regular use of a seat belt. Fathers set a somewhat better example than mothers with respect to regular exercising and not snacking. Fathers and mothers were about the same with respect to getting 7-8 hours of sleep per night and eating breakfast daily.

Figure 3-7. Less than half of parents practiced healthy habits



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

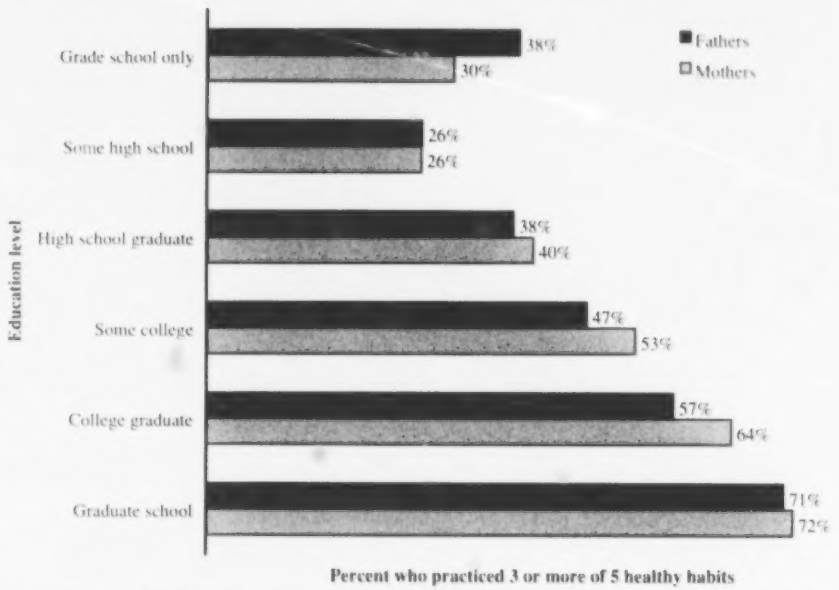
Parents with Higher Education and Income More Likely to Practice Positive Habits

The mothers and fathers who practiced good health habits were similar in several respects to the parents who refrained from engaging in risky behaviors. In particular, parents with higher education and income levels were more likely to adhere to preventive practices like regular exercise, wearing a seat belt, and getting adequate sleep (figure 3-8). However, marital disruption, which was linked to risky behavior, was less important as a predictor of positive health habits (figure 3-9). The following were some of the differences observed with respect to preventive habits:

- Among parents who had not completed high school, only 26 percent conformed to the healthy habits profile; that is, they practiced three or more of the five positive health habits defined above. By contrast, this proportion climbed to 57 percent among college-graduate fathers, 64 percent among college-graduate mothers, and 72 percent among fathers and mothers with some graduate school education (figure 3-8). Lower education parents were less likely to use seat belts, eat breakfast, get 7 or 8 hours of sleep per night, and follow a regular exercise regimen.

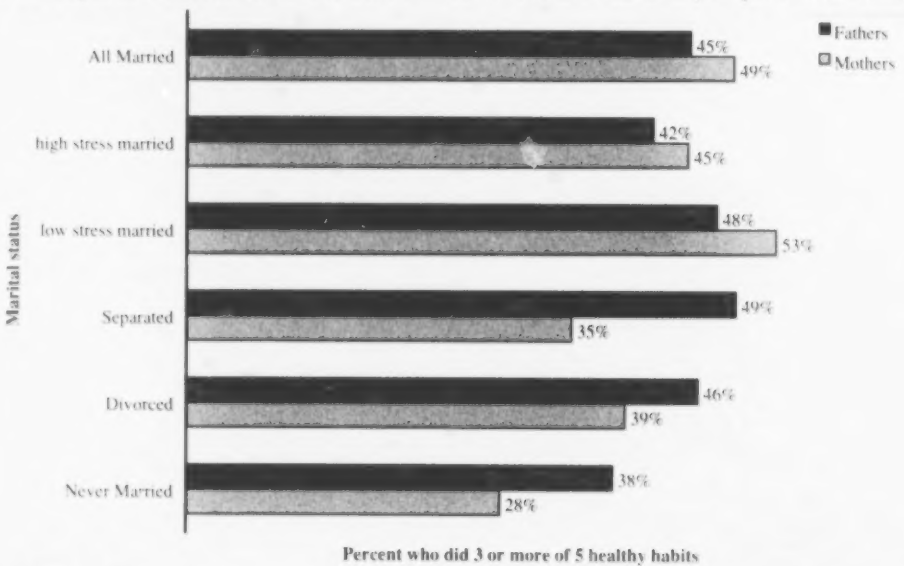
- Mothers with only a grade-school education practiced healthy habits with about the same low frequency as high-school dropout mothers. Among fathers, however, those with a grade-school education were more likely to practice good habits than those who had dropped out of high school (38 percent versus 26 percent).

Figure 3-8. Parents with less education practiced fewer healthy habits



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 3-9. Separated, divorced, and never married mothers less likely to practice healthy habits



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- Only about one-quarter of parents in families with incomes below $10,000 practiced three or more of the healthy habits, while majorities of mothers and fathers in families with incomes of $50,000 and over did so. Low-income parents were less likely to use seat belts, eat breakfast, get 7 or 8 hours of sleep per night, and follow a regular exercise regimen (appendix tables 8 through 10).

- Healthy habits were more common among older mothers and fathers than among younger parents. The youngest group of mothers (those aged 18-24 years) had an especially low rate: 29 percent of these mothers conformed to the healthy habits profile, compared with 41 percent of mothers aged 25-29 and half of mothers aged 35 and older (appendix tables 8 through 10).

- Separated and divorced mothers practiced healthy habits with less frequency than married mothers, but differences were not pronounced (35 percent and 39 percent versus 49 percent, respectively). Never married mothers had a low rate of conforming to the healthy profile: 28 percent. Separated and divorced fathers did not differ from married fathers, but never married fathers were less likely to practice the positive habits (38 percent versus 45 percent) (figure 3-9).

- Married mothers who experienced high levels of stress in the past year were less likely to have practiced healthy habits (45 percent did so) than married mothers who did not experience such stress (53 percent of whom showed the healthy profile). Married fathers showed a similar difference: 42 percent versus 48 percent (figure 3-9).

- Overall, employed mothers did not differ from homemaker mothers. However, there were differences with respect to specific habits. Employed mothers were *more* likely to wear seat belts, less likely to eat breakfast, and equally likely to refrain from snacking, get 7 or 8 hours of sleep, and follow an exercise regiment. Employed fathers were more likely to practice healthy habits than non-working fathers, especially using seat belts, refraining from snacking, and getting 7 or 8 hours of sleep per night (appendix tables 8 through 10).

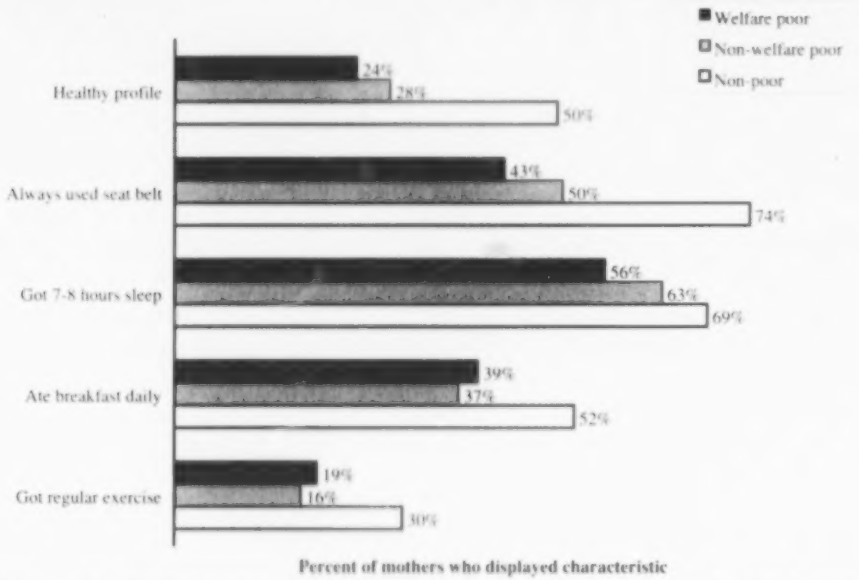
- Only 24 percent of poor mothers on welfare practiced the healthy habits, compared with half of non-poor mothers. Poor mothers not receiving welfare also showed a low rate of conforming to the healthy profile: 28 percent. Differences were most pronounced with respect to not using seat belts and not following a regular exercise regimen (figure 3-10). Poor fathers, both those on and not on welfare, showed lower rates of healthy habits than non-poor fathers (appendix tables 8 through 10).

- Mothers with no health insurance coverage practiced healthy habits at a lower rate (32 percent) than those with private health insurance (51 percent). Mothers covered by Medicaid had an even lower rate (24 percent). A similar pattern was found among fathers (appendix tables 8 through 10).

- Black and Hispanic mothers practiced healthy habits at lower rates than white mothers (28 percent and 40 percent versus 50 percent, respectively). Black fathers practiced healthy habits at lower rates than white fathers. Hispanic fathers were not different from non-Hispanic white fathers overall, although they did use seat belts at lower rates (appendix tables 8 through 10).

- Recent immigrant fathers practiced healthy habits at a higher rate (53 percent) than native-born fathers (44 percent) and longer-term immigrants (47 percent). A similar pattern was not observed among mothers (appendix tables 8 through 10).

Figure 3-10. Welfare and non-welfare poor mothers practiced fewer healthy habits



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

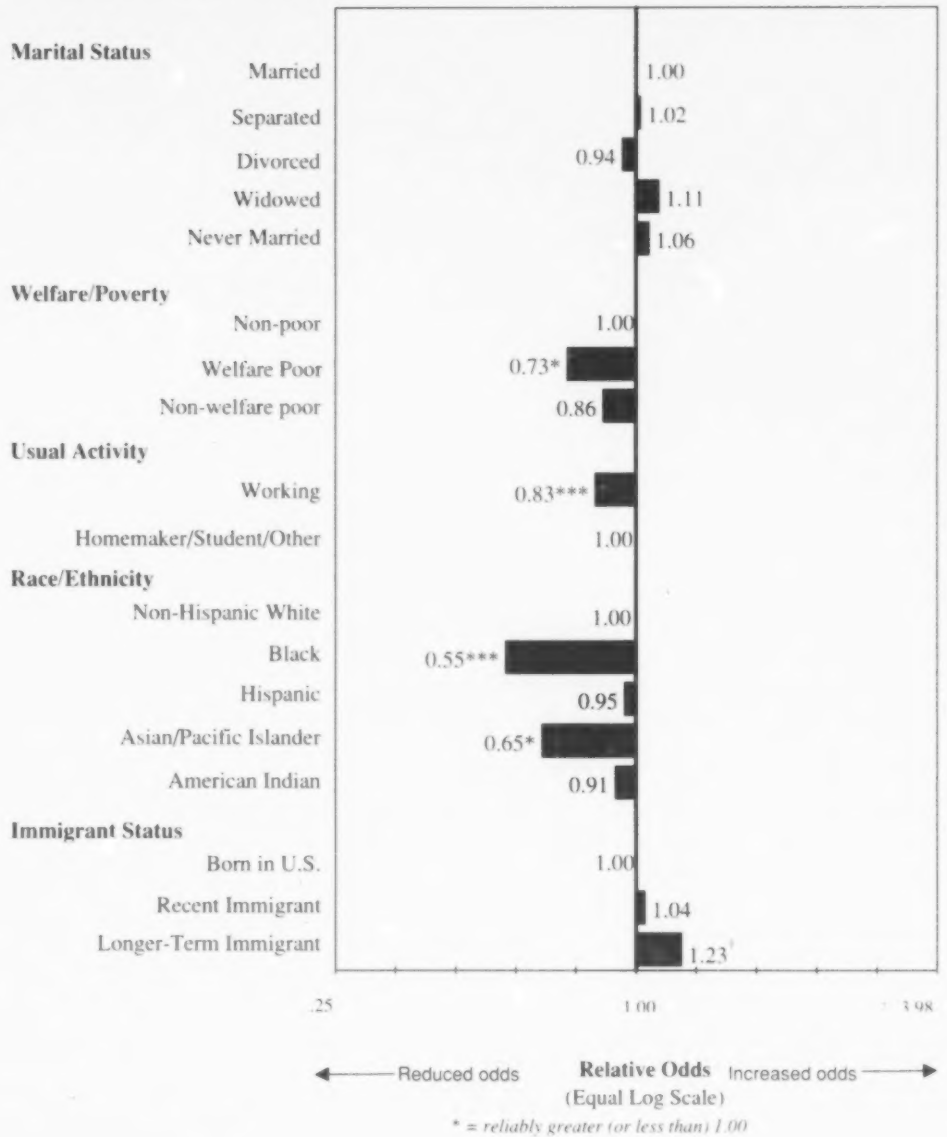
Multivariate results. When multiple logistic regression analysis was used to model the joint influence of demographic and socioeconomic characteristics on positive health habits, parent education again proved to be the strongest predictor, with mothers and fathers with more education being more likely to practice the healthy habits (analysis tables 3-5 and 3-6). As in the bivariate findings, fathers who had a grade-school education had better chances of practicing healthy habits than fathers who were high-school dropouts. The same was not true of mothers.

Higher income levels were also associated with higher frequencies of healthful behavior. Mothers who were poor and on welfare had lower odds of practicing healthy habits, even when their lower income was taken into account. The same was not true of poor mothers who did not receive welfare (figure 3-11). Among fathers, differences with respect to welfare and poverty status were not significant (figure 3-12).

Once again, several observed relationships were altered by the multivariate analysis:

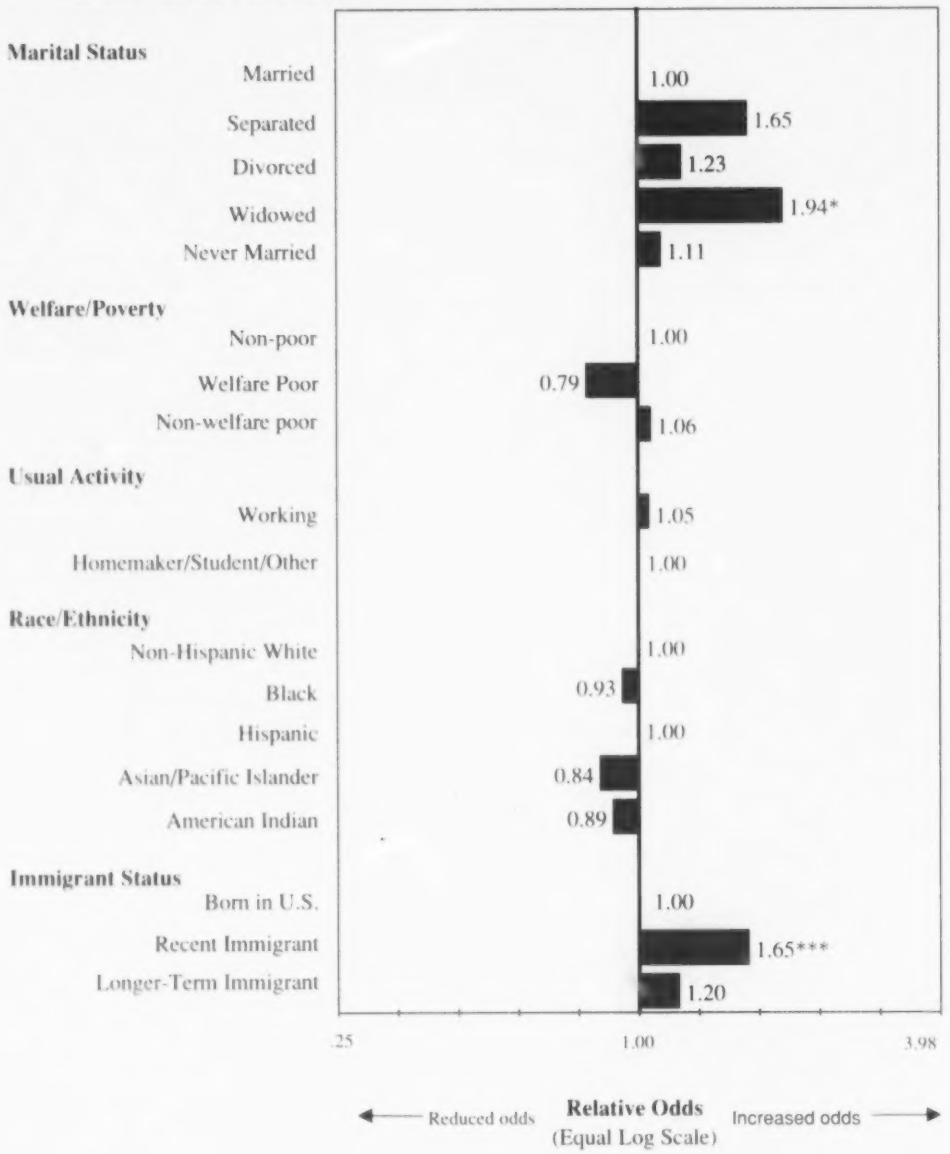
- Separated, divorced, and never married mothers and fathers did not show lower rates of healthful habits than their married counterparts, once education, income, and other disparities between the groups were taken into account (figures 3-11 and 3-12). Married parents who experienced recent stress continued to exhibit fewer positive habits than married parents not under stress (analysis tables 3-7 and 3-8).
- Older parents did not show higher rates of healthful habits than younger parents, once related factors like education and income were controlled. However, the youngest group of mothers was less likely to practice positive habits than other mothers (analysis tables 3-5 and 3-6).

Figure 3-11. Welfare mothers, employed mothers, and minority mothers were less likely to practice good health habits, when related factors like education level were taken into account



Note: Relative odds of practicing healthy habits adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 3-12. Widowed fathers and recent immigrant fathers were more likely to practice good health habits, when related factors like education level were taken into account



** = reliably greater (or less than) 1.00*

Note: Relative odds of practicing healthy habits adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- When their higher education and income levels were controlled, employed mothers were found to have a slightly *lower* chances of practicing healthful habits than other mothers (figure 3-11). On the other hand, employed fathers had *higher* chances of conforming to the healthy profile than other fathers (figure 3-12).
- Most racial and ethnic differences were no longer significant, once related socio-economic disparities were controlled. However, black and Asian mothers were found to have lower rates of healthful habits than white mothers (figure 3-11). Recent immigrant fathers continued to have higher odds of practicing healthful habits than native-born fathers (figure 3-12).

Implications of Changing Family Patterns for Health-Related Behavior

Given the associations noted above, what are the likely implications of changing family patterns for the health-related behavior of American mothers and fathers? Will increases in older parenthood, single parenthood, maternal employment, and income inequality make it harder for parents to set a good example for their children?

Older Parents Means Heavier Parents, But No More Risk Otherwise

The findings on parents' health-related behavior indicate that older parenting does not have a major effect on risky behavior or positive health habits. Although older parents generally exhibited less risky behavior and more healthful habits than younger parents, most of these associations proved to be attributable to the higher education and income levels of the older parents, rather than to their age *per se*. The one negative implication of older parenthood is the greater frequency of overweight mothers and fathers. Perhaps of greater concern is the continued sizable minority of very young parents. Mothers in the youngest age group showed fewer positive habits than other age groups, even when socioeconomic disparities were controlled. On the other hand, the youngest mothers showed lower rates of risky behavior when socioeconomic differences were controlled.

Increase in Marital Disruption Means More Risky Behavior

The trend toward more marital disruption would seem to have negative implications for the future health-related behavior of American mothers and fathers. Separated mothers and divorced mothers and fathers had significantly higher odds of smoking, drinking heavily, and engaging in other risky behaviors than married parents, even when socioeconomic differences between groups were controlled. Married parents who experienced recent stress were also at greater risk of negative health behaviors and less likely to practice positive habits than their counterparts whose lives had been relatively calm.

In contrast to the findings on *formerly* married parents, the evidence did not indicate that being a *never* married parent increased the chances of detrimental health-related behavior. Or rather, the evidence was that higher rates of risky behavior—and lower rates of positive habits—shown by never married parents were attributable to their lower education and income levels, rather than to their unmarried status as such.

The survey findings lend support to the explanation that the greater frequency of poor health found among separated and divorced parents, as well as among never married parents, is at least partly attributable to more risky behavior and lower frequencies of positive health habits among these parents.

Parental Employment Not Clearly Associated With Detrimental Behavior

Although the findings were somewhat puzzling, the survey results indicate that increases in maternal employment may be having negative effects on the health-related behavior of American mothers. On the face of it, working mothers showed about the same levels of risky behavior and positive health habits as mothers who were full-time homemakers. However, when the higher education and income levels of working mothers were factored into the equation, maternal employment proved to be associated with modestly higher odds of risky behavior and modestly lower odds of preventive health habits.

The picture was different for fathers. Working fathers showed lower rates of risky behavior and higher rates of positive health habits than fathers who were at home. When socioeconomic differences were controlled, however, the health-related behavior of working fathers proved to be no different than the behavior of stay-at-home fathers.

Increasing Inequality Likely To Have Negative Behavioral Consequences

The survey findings suggest that increasing economic inequality and persistent poverty among families with children are likely to mean increases or continuing high levels of negative health behavior among American parents. Mothers and fathers in low-income families were more likely to smoke, drink heavily, and be sedentary and overweight. They were less likely to use seat belts, exercise regularly, eat breakfast, or get adequate sleep. Mothers who were poor and welfare dependent faced additional risks of engaging in detrimental behavior and not practicing good health habits. Although education was a stronger predictor of health behavior than income, low income and poverty were significantly linked to negative behavior after education was controlled. And, of course, low education and low income usually go hand in hand.

Implications of Behavioral Findings For Health Care and Welfare Policies

The survey findings regarding risky health-related behavior and good health habits have implications for both health care policy and welfare policy.

Health care policy. In the previous chapters, we saw that parents covered by Medicaid had poorer general health and more negative feelings than parents covered by private health insurance. The health status of parents who had no insurance coverage was not worse than both of the covered groups, but rather intermediate between the private insurance group and the Medicaid group. This chapter examined the health-related behavior of the different coverage groups. The purpose was to find out whether relative rates of health behavior across the groups were parallel to or divergent from the observed differences in health status. The results should give an indication as to whether Medicaid parents and non-covered parents have greater need than other parents for preventive care and care that has a strong health promotion orientation, as health care reformers have argued.

Mothers covered by Medicaid showed substantially higher rates of risky behavior than mothers covered by private health insurance. More than half of the former group (53 percent) exhibited the high-risk pattern, compared with less than a third (29 percent) of the latter. Medicaid mothers were twice as likely to smoke, nearly three times as likely to drink heavily, and half again as likely to be overweight as mothers covered by private health insurance. Mothers with no health insurance were intermediate (45 percent showed the high-risk pattern), significantly higher than the private insurance group, but significantly lower than the Medicaid group. Fathers covered by Medicaid and those without health insurance coverage also showed elevated rates of risk behavior. Among fathers, the non-covered group had risk behavior rates

that were essentially equivalent to those of the Medicaid group.

Mothers covered by Medicaid were only half as likely to practice the habits in the healthy profile as mothers covered by private health insurance. Again, mothers without health insurance were intermediate between the Medicaid and private insurance groups. One quarter of Medicaid mothers (24 percent) exhibited the healthy profile, compared with one third of mothers with no health insurance (32 percent), and more than half of mothers with private insurance (51 percent). To illustrate the pattern with some of the component habits: less than half of Medicaid mothers (45 percent) always used seat belts, compared with more than half of the mothers without coverage (54 percent) and three-quarters of the mothers with private coverage (76 percent). Medicaid mothers and mothers without coverage did not differ in the frequency of having gotten regular exercise (17 percent and 19 percent, respectively), with both groups being less likely to have done so than mothers with private coverage (31 percent). Fathers in the three groups showed a very similar pattern of differences in healthy habits.

The relatively high rates of risky behavior among parents not covered by health insurance, and the low rates with which they practiced positive health habits, reinforce the conclusion that these individuals are in need of care, especially care that focuses on disease prevention and health promotion. We examine the quantity and quality of care received by these parents in the next chapter.

Like the general health and mental health findings, the health-related behavior findings buttress the conclusion that the Medicaid population is a high-needs group for whom it is costly to furnish care. The findings support the argument of Medicaid reformers that low-income individuals are in need of preventive care that focuses on changing deleterious habit patterns. However, the availability of Medicaid-sponsored care did not seem to improve the health-related behavior of program recipients, relative to parents who were not covered by any form of health insurance. Questions remain as to whether Medicaid parents were not getting preventive care, but only curative care, or whether they were getting such care, but it was not doing much good as far as changing unhealthful behavior patterns. These questions are addressed with data presented in the next chapter.

Welfare policy. Chapters One and Two presented data showing that both welfare parents and poor parents not receiving welfare had more general health problems and mental health problems than non-poor parents. But welfare parents seemed to show more ill health and negative feelings than the non-welfare poor, although differences were not always significant. This chapter examined whether these same two groups of parents had higher rates of risky behavior and lower frequencies of good health habits than non-poor parents, as well as looking at how similar rates of health-related behavior were across the two groups. One purpose was to see whether differences in health behavior could help account for the inferior health status of the low-income groups. Another purpose was to gain insights into how requiring welfare parents to work might affect their health-related behavior.

Mothers who were poor and "on welfare" showed high rates of risky behavior and low frequencies of positive health habits. More than half of these mothers (54 percent) exhibited the high-risk behavior pattern. Nearly half (46 percent) were smokers. One in three was sedentary (32 percent) and overweight (36 percent). One in fifteen (7 percent) was a heavy drinker and one in thirty (2.9 percent) had driven after drinking too much. Except for driving after drinking, these proportions were all substantially higher than the comparable rates of risky behavior shown by non-poor mothers. Mothers receiving welfare were half as likely as non-poor mothers to display the healthy habits profile: 24 percent versus 50 percent.

High rates of risky behavior and low rates of positive habits might be expected for welfare mothers, given the generally low education and income levels of these mothers, and given the relationships between education or income and

health-related behavior described earlier. However, welfare mothers had significantly higher odds of risky behavior and lower odds of preventive habits, even after education and income were controlled in multivariate regression analyses.

Mothers in families below the poverty line who were *not* receiving welfare also showed elevated rates of risky behavior, significantly higher than those shown by non-poor mothers, but usually lower than those of welfare mothers. Four in ten (42 percent) showed the high-risk behavior pattern. One in three (34 percent) was a smoker. Four in ten (39 percent) were overweight and one in three (33 percent) was sedentary. One in twenty-five (4 percent) drank heavily and one in fifty (2 percent) had driven after drinking. Mothers in poor families not receiving welfare were little different from welfare mothers with respect to healthy habits: 28 percent of these mothers practiced the habits in the healthy profile. In the multivariate analyses, being poor and not receiving welfare did not present an additional risk of detrimental behavior over and above that posed by the low incomes and low education levels of these mothers.

The relatively small group of fathers in families receiving welfare and non-welfare poor fathers showed similar patterns of health-risk behavior. Both groups were more prone to the high-risk pattern than non-poor fathers; 62 percent of welfare fathers and 54 percent of non-welfare poor fathers showed the pattern, compared with 37 percent of non-poor fathers. But welfare fathers had significantly higher rates of risky behavior than other fathers in families below the poverty line. Only with respect to heavy drinking and driving after drinking did the two groups of poor fathers show equivalent rates of risky behavior.

Welfare fathers and fathers who were poor but not receiving welfare showed a pattern of differences with respect to healthy habits similar to that found among mothers. The non-welfare poor fathers were more likely to get eight hours of sleep per night and not snack between meals, but in other respects they were similar to the welfare fathers. Both groups were significantly less likely to practice the habits in the healthy profile than were non-poor fathers.

In the multivariate analyses, neither the welfare fathers nor the non-welfare poor fathers had significantly greater chances of engaging in risky behavior, or failing to practice good habits, over and above the risk posed by their low income and education levels.

The observed differences between welfare and non-welfare parents who are in families below the poverty line support the idea that dependency is often associated with unhealthy behavior patterns. They also lend credence to the notion that policies that attempt to nudge welfare parents toward more constructive patterns of behavior may be warranted. However, the finding that non-welfare poor parents also showed higher rates of risky behavior than non-poor parents (albeit not as extreme as those of the welfare parents) indicates that merely getting welfare parents to work at jobs and be more or less self-sufficient is not necessarily going to rid them of unhealthy habits.

Implications of Behavioral Findings for Stress, Resources, and Dysfunctional Behavior Theories

Some of the questions raised concerning group differences in health-related behavior were designed to test the three theories described previously, theories that may help account for the observed associations between family living situations and parent health. How well did stress theory, resources theory, and dysfunctional behavior theory anticipate the differences that were actually found?

Health-Related Behavior Is Worse In Family Situations That Produce Stress

The findings on health-related behavior were generally consistent with stress theory. Family

situations found to be stressful for parents were also situations in which parents were more likely to engage in risky behavior. This was true for separated and divorced parents, and for married parents who had experienced a lot of stress recently. It was not true for never married parents, but these parents were less likely to report stress. It was true for parents receiving welfare, though not so for poor parents who were not receiving welfare. The latter group reported more stress than non-poor parents did, though not as much as welfare parents reported. The stress-risky behavior link was even found among working mothers, although their rate of risky behavior was only modestly elevated and this elevation only became apparent after their higher education and income levels were taken into account.

According to the theory, stress could lead to risky behavior either by impairing parents' judgement or by causing parents to seek relief from the discomfort of stress through smoking, heavy drinking, or overeating. Healthy habits did not show as strong associations with stress as risky behavior. But this makes sense, because it is less clear how stress would have an effect on these preventive practices. On balance, then, the findings were supportive of stress theory, with the possible exception of the results for the non-welfare poor group.

Parents With Fewer Resources Engage In More Risky Behavior and Practice Fewer Healthy Habits

The results were mixed as far as predictions from resources theory were concerned. It was certainly the case that parents with fewer economic or informational resources were more likely to engage in risky behavior and less likely to practice preventive habits. These findings were consistent with the theory, although education and informational resources proved to be more closely associated with health-related behavior than income and economic resources. However, the results with respect to welfare and Medicaid parents were not supportive of the theory. The cash benefits provided by welfare and the health care made possible by Medicaid coverage did not lead to lower rates of risky behavior or higher rates of preventive habits, when compared with the behavior of non-welfare poor parents or parents without any health insurance coverage.

Welfare Dependent Parents Show More Dysfunctional Behavior

The findings on the health-related behavior of low-income parents were consistent with the hypothesis that deleterious patterns of behavior are at least partly responsible for the poorer health of these parents. The health-related behavior of poor parents receiving welfare was still more detrimental than that of poor parents who were not receiving cash payments and Medicaid, food stamps, and other non-cash benefits. As noted above, this is contrary to the predictions of resource theory and consistent with the notion that dependency on government support programs does nothing to discourage self-destructive behavior, and may even encourage it.

Note, however, that low-income parents not receiving welfare exhibited risky behavior with considerably greater frequency than non-poor parents. Thus, simply moving families from welfare dependency to working poverty or near-poverty is not likely to rid them of self-destructive behavior patterns. There remains a question as to whether the health care that welfare parents were receiving was sufficiently focused on a health promotion and disease prevention orientation. Data on the frequency with which different groups of parents received health care, and information on the messages parents received as part of their care, are presented in the next chapter.

Notes to Chapter 3

1. U.S. Department of Health and Human Services, Public Health Service (1991). *Healthy People 2000*, Chapter 15. Heart disease and stroke, pp. 392-413; Chapter 16. Cancer, pp. 416-440.

2. *Ibid.*, Chapter 7. Violent and abusive behavior, pp. 226-247; Chapter 9. Unintentional injuries, p. 272-293.

3. *Ibid.*, pp. 282-283.

4. Belloc (1973). Relationship of health practices and mortality; Belloc & Breslow (1972). Relationship of physical health status and health practices; Breslow, Lester & Enstrom (1980). Persistence of health habits and their relationship to mortality; Schoenborn (1986). Health habits of U.S. adults, 1985: the "Alameda 7" revisited; Wiley & Camacho (1986). Life-style and future health: Evidence from the Alameda County study; Wingard, Berkman, & Brand (1982). A multivariate analysis of health-related practices: A nine-year mortality follow-up of the Alameda County study.

5. Adult respondents to the Health Promotion and Disease Prevention (HPDP) Supplement to the 1990 National Health Interview Survey (NHIS) were asked a series of questions about their smoking, alcohol use, driving after drinking, the amount of physical work and exercise they usually engaged in, and whether they perceived themselves to be overweight. Responses to these questions were combined to form the High-Risk Health Behavior indicator. Questions about illicit drug use were not included in the HPDP supplement, and hence could not be included in the risky behavior indicator.

6. Because of evidence that people's willingness to classify themselves as overweight varied systematically across demographic groups, we constructed an alternative weight indicator based on numerical height and weight information. In 1991 NHIS, respondents were asked: "About how tall are you without shoes?", and, "About how much do you weigh without shoes?" The height and weight data respondents provided were compared with 1983 tables of desirable body weights for men and women of specific heights prepared by the Metropolitan Life Insurance Company in 1983, based on actuarial data on the relationship between weight and longevity. Using the tables, a man or woman who was 20 percent or more over his or her desirable body weight qualified for a "yes" on this alternative overweight indicator. However, inasmuch as these data came from a different year of the NHIS, they could not be incorporated into the combined High-Risk Health Behavior indicator.

7. National Center for Health Statistics (1997). *Health, U.S., 1996-97*. Table 72, Overweight persons 20-74 years of age, p. 192. As of the 1988-94 time period, 25.4 percent of males aged 20-34 years and 34.9 percent of males aged 35-44 years were overweight, as were 25.6 percent of females aged 20-34 and 36.8 percent of females aged 35-44.Overweight was defined for men as body mass index greater than or equal to 27.8 kilograms/meter^2, and for women as body mass index greater than or equal to 27.3 kilograms/meter^2. These cut points were used because they represent the sex-specific 85th percentiles for persons 20-29 years of age in the 1976-80 National Health and Nutrition Examination Survey.

Chapter 4

Parents Who Do Not Get the Health Care They Need

Many American parents put their own health in jeopardy and set a bad example for their children by engaging in risky behaviors like smoking and heavy drinking, or by not practicing positive habits such as always wearing a seat belt when driving and adhering to a regular exercise regimen. Getting strong encouragement from a doctor or other health professional to give up risky behavior or adopt good habits can motivate positive behavior change. But how many American parents are getting the kind of health care that may help change long-standing habits? Indeed, how many are even getting periodic health check-ups that could be the occasion for receiving such advice?

The health care of parents with lower education and income levels is of particular interest, for, as we have seen, these individuals are more likely to be in poor health, suffer from depression and other negative feelings, and engage in risky behavior. Also of interest are the frequency of the health care received by the growing numbers of parents not covered by any form of health insurance and the quality of care received by parents covered by Medicaid. Both of these groups also showed elevated rates of risky behavior. Understanding the relationship between health care and health-related behavior is important because of continuing changes in the U.S. health care system and policy debates about what can and cannot be accomplished by restructuring care to limit treatment costs and put more emphasis on prevention.

Do these and other groups that show higher rates of risky behavior do so because they are not getting medical care? Is the care they are getting not paying sufficient attention to behavioral issues? Or is most of the medical care that most people get just not very effective at changing long-standing habit patterns?

Research Questions About the Medical Care Parents Receive

In order to better understand why health care is not working to reduce differences in rates of risky behavior across various groups of parents, the following research questions were addressed with national survey data:

- What proportion of mothers and fathers seem to get regular health check-ups?
- How many parents in various groups show signs of inadequate care, such as not having a regular doctor or health plan, or having gone a considerable length of time without seeing a doctor or dentist?
- Are the groups who do not get care the same ones that show higher rates of risky behavior? Or is inadequate care distributed differently from high-risk health behavior?
- How many parents who have gotten health check-ups were questioned by their doctors about their health-related behaviors or received advice designed to discourage risky behavior and encourage preventive habits?
- Are there differences in the types of questioning and advice received by parents from different demographic and social groups? Do these differences help account for differences across the groups in specific forms of health-related behavior?

Health Care Indicators

To gauge which parents seemed to be getting regular health check-ups, an indicator based on the recency of the parent's last check-up was created. Differences across groups in the proportion who had gotten a **check-up in the last two years** were analyzed, as well as differences in the proportion who obtained a check-up in the last year.[1]

A summary marker of **inadequate health care** was formed by determining whether the parent had one or more of three indicators of deficient care. The first indicator was having **no regular source of care**, i.e., no particular clinic, health center, doctor's office, or other place that the parent usually went to if sick or needing medical advice. This indicator was also marked if the parent used a hospital emergency room as a usual source of care. The second indicator was having **no doctor visits in two years or more**. Although having no doctor visits in this interval may be a sign that the person had no significant injuries or illnesses during that time, it also tends to signal the absence of a continuing relationship with a physician or other provider and a lack of preventive care. The third indicator was having **no dental visits in the last year**. Again, this may reflect the fact that the person had no significant dental problems in the interval. But it too has been found to be a sign of a lack of preventive care, and not just in the dental arena.[2]

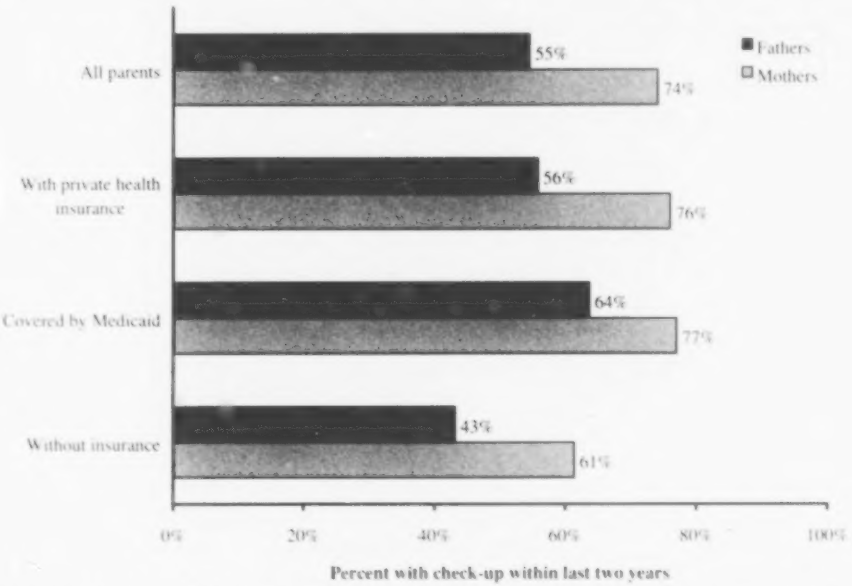
Information about **coverage of health-related behavior** by the medical care provider was obtained from parent reports about whether specific topics were discussed in the parent's last check-up. Topics inquired about included: diet and eating habits, amount of physical activity or exercise, smoking cigarettes or use of other forms of tobacco, quantity and frequency of alcohol consumption, use of marijuana, cocaine, and other drugs, sexually transmitted diseases, use of contraceptives, and doctor's recommendations to begin or continue exercising.[3]

National health survey data were used to examine the prevalence of health check-ups in the last two years, inadequate health care, and the coverage of health-related behavior by the care provider, both among U.S. mothers and fathers in general, and among specific subgroups of the parent population. Results are shown in figures 4-1 through 4-7. They are presented more fully in tables 11 through 17 of the appendix tables and analysis tables 4-1 and 4-2.

Three-Quarters of Mothers and Half of Fathers Had A Check-up Within The Last Two Years

A majority of U.S. parents reported that they have had a medical check-up within the last two years, although for fathers it was just barely a majority. In the 1991 National Health Interview Survey, 74 percent of all mothers and 55 percent of all fathers said they had such an examination less than two years ago (figure 4-1). More than half of mothers (54 percent) and one third of fathers (35 percent) had a check-up within the last year. These findings seem encouraging from the viewpoint of the public health goal of increasing the number of adults who obtain medical examinations and preventive care at appropriate intervals. However, one could focus on the empty portion of the glass and rightly say that one mother in four and nearly one father in every two had not had a check-up within the medically-recommended interval.

Figure 4-1. Parents with no health insurance less likely to have check-ups



Source: N. Zill (1997). Tabulation of data from 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Most Low Income Parents Had Check-ups

Another encouraging finding was that rates of having check-ups did not vary much across social and demographic groups. To be sure, parents with lower education and income levels were somewhat less likely to have had medical exams than those with more years of schooling and higher earnings levels. But the differences were not great, certainly not as large as the differences in health status, depression, and health-related behavior reported in previous chapters (appendix table 13). Here are some illustrative findings:

- Sixty-three percent of mothers with grade school education and 71 percent of those with some high school had check-ups within the last two years, compared with 77 percent of college graduates who had them.
- Seventy-two percent of mothers in families with incomes below $10,000 had check-ups within the last two years, compared with 77 percent of mothers in families with incomes of $50,000 and over. The comparable proportions for fathers were 50 percent and 57 percent.
- Parents in welfare families were as likely or more likely to have had check-ups as those in non-poor families (appendix table 13).
- African-American parents were actually slightly more likely to report having had a check-up than white parents, while Hispanic parents were as likely or nearly as likely to have had one as white parents.
- Recent immigrant parents were only slightly less likely to have had a check-up than earlier-arriving immigrants or native-born parents.

Parents Without Insurance Less Likely To Have Received Check-Ups

The relatively small disparities in check-up frequency by social class and ethnic group suggest that the nation has made progress in equalizing access to care. However, it was certainly the case that check-ups were significantly less frequent among parents who had no health insurance coverage than among those who were covered by private insurance or Medicaid (figure 4-1). It was also true that parents in low-income families who were not eligible for benefits under the welfare system were less likely to have had check-ups. Here are the relevant findings:

- Among mothers, 61 percent of those without health insurance had check-ups in the last two years, compared to 76 percent of privately-insured mothers and 77 percent of Medicaid mothers. Differences were yet more striking if we compare rates of check-up within the last year: 41 percent versus 55 percent and 60 percent, respectively.
- Among fathers, 43 percent of the uninsured had check-ups within the last two years, contrasted with 56 percent of the privately insured and 64 percent of Medicaid beneficiaries.
- Among mothers, 47 percent of the non-welfare poor had check-ups within the last year, and 68 percent, within the last two years. Among fathers, 30 percent of the non-welfare poor had a check-up within the last year, and 49 percent within the last two years.

Note that despite their significantly lower check-ups rates, a majority of mothers and close to half of fathers in these groups reported that they had medical exams within the previous two years. One might question how parents without insurance were paying for the checkups they reported having and wonder whether there was some over-reporting of medical examinations for social desirability reasons. Of course, people who are currently without insurance may have had coverage in the recent past, when they were employed. Also, it is perfectly possible for low-income parents not covered by Medicaid and those without insurance to have obtained examinations free of charge or at reduced cost at public clinics or hospitals.

Four in Ten Mothers and Six in Ten Fathers Showed Signs of Inadequate Care

A less encouraging picture of the adequacy of parental health care was obtained from the three-component indicator of inadequate preventive care. Data from the 1990 National Health Interview Survey showed that 61 percent of U.S. fathers and 42 percent of mothers had one or more of the three signs of inadequate medical care (figure 4-2). The frequency of the individual signs of inadequate care were as follows:

- Nearly three mothers in ten (29 percent) had not had a dental visit in the last year.
- One mother in six (16 percent) had no regular source of medical care.
- One in 14 (7 percent) had not had a doctor visit in two years or more.

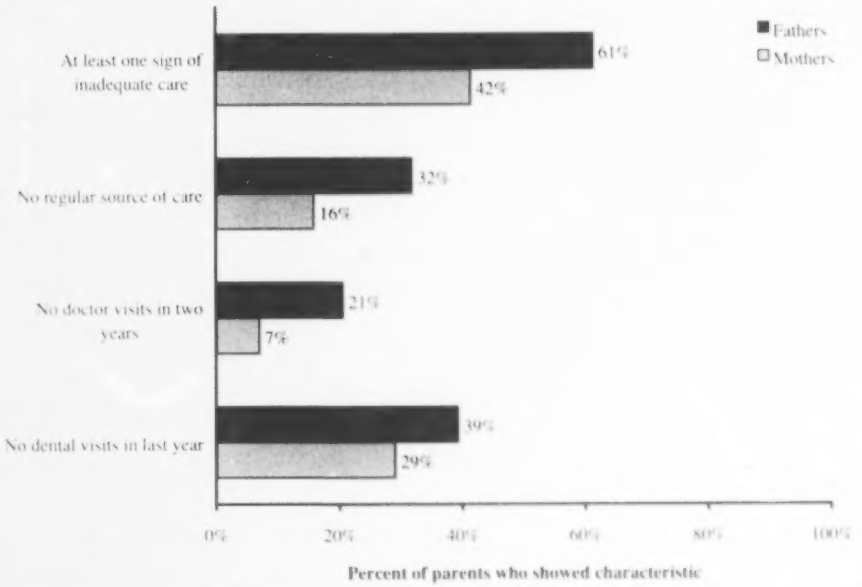
For fathers, the component rates were:

- Four fathers in ten (39 percent) had no dental visits in the last year.
- One father in three (32 percent) had no regular source of care.
- One father in five (21 percent) had not seen a doctor in two years or more.

Inadequate Care More Frequent Among Parents With Less Education And Income

The indicators of inadequate medical care varied in frequency by parental age, education level,

Figure 4-2. Six in ten fathers and four in ten mothers showed signs of inadequate health care



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

family income, race and ethnicity, marital status, and employment status. Inadequate care was more common among young than among older parents and among parents with low education and income levels than among those with higher levels. Recent immigrant parents received less adequate care than longer-term immigrants and native-born parents. The following specific differences were observed:

- Three-quarters of fathers in their twenties and 53 percent of mothers aged 18-24 had one or more indicators of inadequate care. The same was true for 57 percent of fathers and 37 percent of mothers in their forties.
- Seventy-one percent of mothers with a grade school education and 58 percent of those with some high school had signs of inadequate care, compared with 29 percent of mothers who were college graduates.
- Nearly two-thirds of mothers in families with incomes below $10,000 had signs of inadequate care, versus about one-quarter of mothers in families with incomes of $50,000 or more. Similar trends were found among fathers (appendix tables 11 and 12).
- Never married mothers were most likely to have signs of inadequate care (59 percent), while married and widowed mothers were least likely (39 percent and 37 percent, respectively). Separated and divorced mothers were more likely to show signs of inadequate care (51 percent and 46 percent, respectively) than married mothers.
- There were similar differences among fathers' marital groups, except that divorced fathers were no more likely to have inadequate care than married fathers, whereas separated and widowed fathers had higher rates of care neglect (appendix tables 11 and 12).
- Mothers who were full-time homemakers or students were more likely to show signs of inadequate care (47 percent of both groups) than mothers who were employed outside the home (38 percent).

- Fathers did not show the same pattern. Homemaker fathers had a slightly *lower* rate of medical neglect (56 percent) than employed fathers (61 percent), while student fathers had a higher rate (70 percent).

- Hispanic mothers and fathers were most likely to have signs of inadequate care, with 56 percent of the mothers and 77 percent of the fathers showing at least one sign of medical neglect. White mothers and fathers were least likely, while black parents were intermediate: their chances of having inadequate care were less than those of Hispanics, but greater than those of white parents (appendix tables 11 and 12).

- Signs of inadequate care were quite common among parents who had come to this country within the last 15 years: 62 percent of recent immigrant mothers and 76 percent of fathers showed one or more signs of inadequate care. Medical neglect was less frequent among immigrant parents who had been here longer (45 percent of mothers and 60 percent of fathers); their rates were not significantly different from rates shown by native-born parents.

Parents Without Insurance and Non-Welfare Poor Showed Highest Rates of Inadequate Care

Unlike the situation with health status and health-related behaviors, parents without health insurance and those in low-income families that were not receiving welfare were clearly worse off—i.e., they were receiving less adequate medical care—than parents who were being supported by the welfare "safety net." Parents who had no health insurance coverage showed more signs of medical neglect than parents covered by Medicaid or those covered by private health insurance. Parents in non-welfare poor families had more inadequate care than parents in welfare families. Welfare parents showed more signs of inadequate care than non-poor parents, but this was mainly with respect to not getting dental care (figure 4-3).

Here are the specific differences observed:

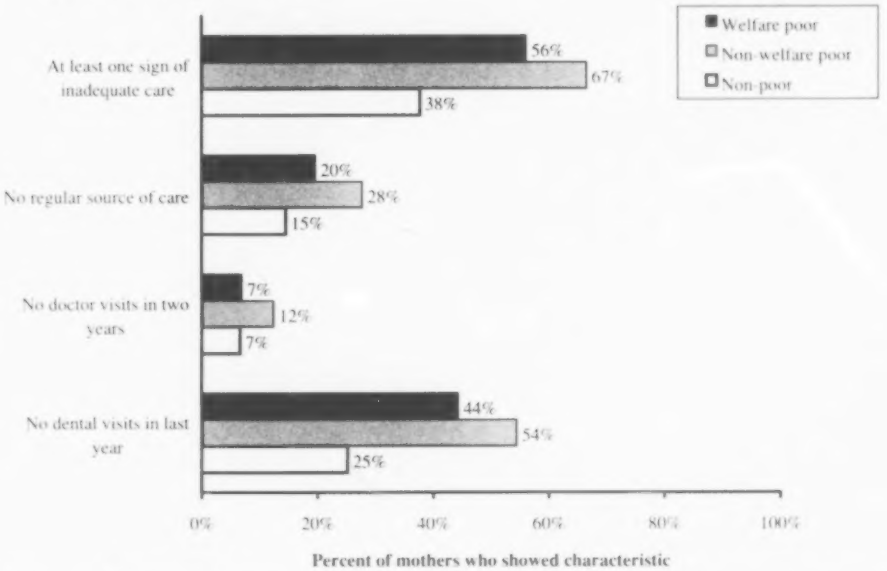
- Nearly two-thirds of mothers without health insurance coverage had one or more indicators of medical neglect (66 percent), compared with one-third of mothers covered by private health insurance (35 percent). The non-covered mothers were twice as likely to have no regular source of care (29 percent versus 13 percent); no doctor visits in the last two years (12 percent versus 6 percent); and no dental visits in the last year (51 percent versus 23 percent).

- More than half of mothers covered by Medicaid (56 percent) had one or more indicators of inadequate care. However, Medicaid mothers had the same proportion with no doctor visits in the last two years as non-poor mothers (7 percent versus 6 percent), and only a slightly higher proportion with no regular source of care (19 percent versus 13 percent). But there were considerably more Medicaid mothers with no dental visits in the last year (44 percent versus 23 percent).

- Two-thirds of mothers in non-welfare poor families (67 percent) had one or more indicators of inadequate medical care, whereas the proportion among non-poor mothers was only about one third (38 percent). Low-income mothers not receiving welfare were nearly twice as likely to have no regular source of care (28 percent versus 15 percent); no doctor visits in two years or more (12 percent versus 7 percent); and no dental visits in the last year (54 percent versus 25 percent).

- Welfare poor mothers were better off than the non-welfare poor, but worse off than the non-poor. Fifty-six percent of these mothers had one or more signs of inadequate care. Compared to the non-poor, the welfare poor mothers had the same low proportion with no doctor visits

Figure 4-3. Inadequate health care more common among non-welfare poor than among welfare poor or non-poor mothers



Source: N. Zill (1997). Tabulation of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

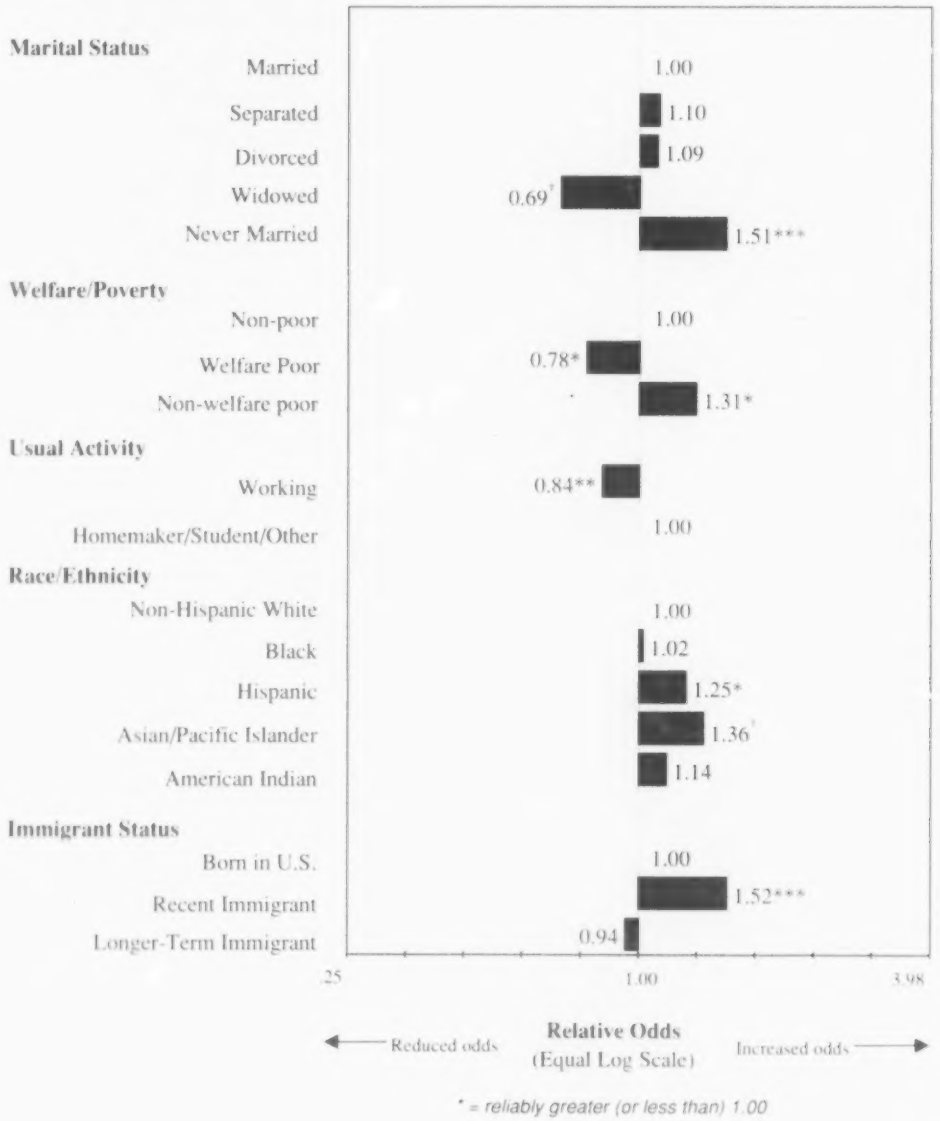
in two years (7 percent) and their proportion with no regular source of care was only slightly higher (20 percent versus 15 percent). But their proportion with no dental visits in the last year was considerably higher (44 percent versus 25 percent).

- Rates of inadequate care were generally higher among fathers, but the patterns of difference among the health insurance groups and the welfare and poverty groups were similar to those for mothers (appendix tables 11 and 12).

Multivariate results. When multiple logistic regression analysis was used to model the joint influence of demographic and socioeconomic characteristics on inadequate health care, lower income and education levels proved to be most closely associated with medical neglect (figure 4-4). Being below the poverty level and not receiving welfare increased the odds of inadequate care, whereas being "on welfare" reduced the chances of medical neglect, at least among mothers. Never married mothers had higher odds of inadequate care, but separated and divorced mothers did not differ from married mothers when other factors were taken into account. Age was not significantly related to inadequate care, other factors considered. Hispanic mothers had higher rates of neglect, but black mothers did not differ from white mothers. Recent immigrant mothers continued to experience more inadequate care, while working mothers continued to show less neglect of health care relative to mothers who were not working (analysis table 4-1).

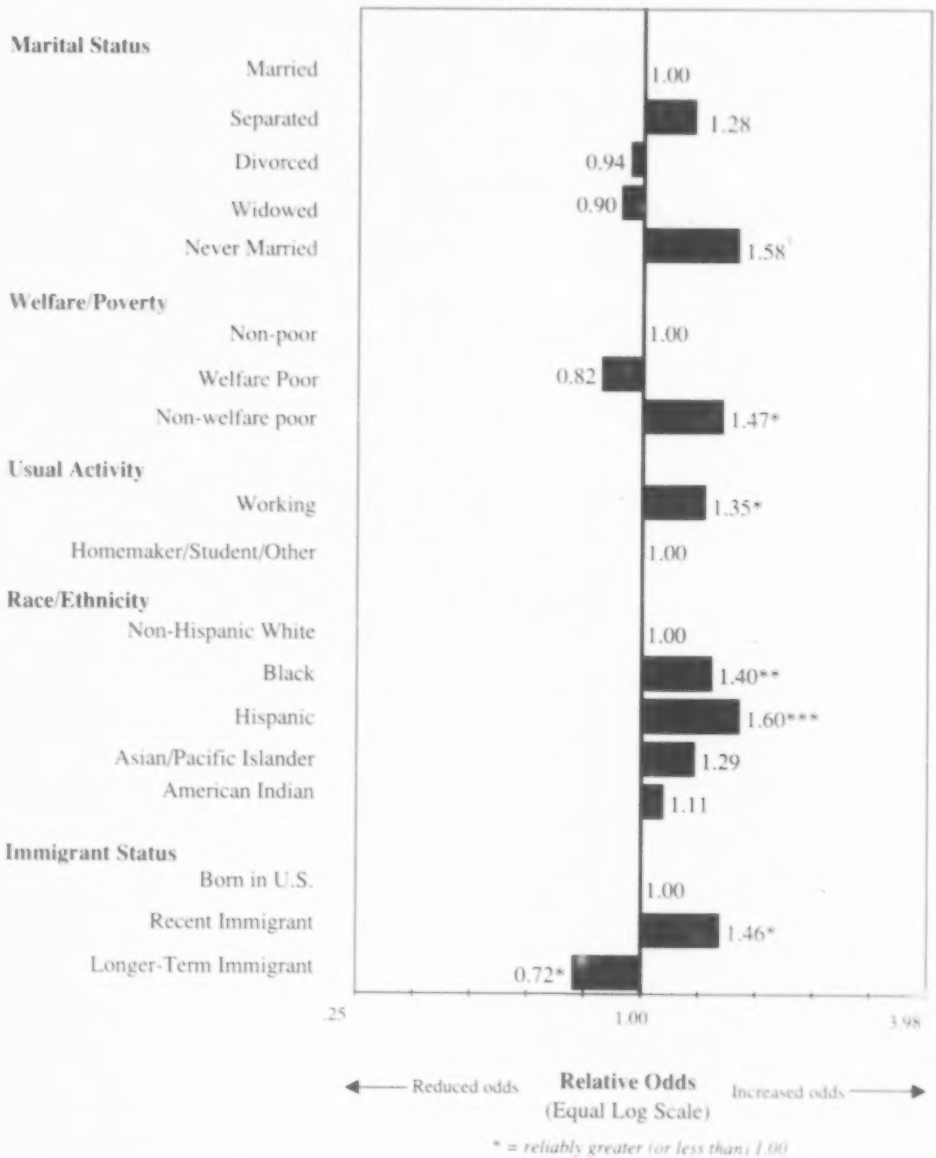
The multivariate results for fathers differed somewhat from those for mothers (figure 4-5). Age was significantly related to inadequate care among fathers, with younger fathers showing more neglect of their health care. Employed fathers showed *more* medical neglect than fathers who did not work. Black as well as Hispanic fathers showed higher rates of inadequate care. As with mothers, though, lower education, lower

Figure 4-4. Low-income mothers not covered by welfare and recent immigrants were more likely to have inadequate health care, whereas welfare mothers and employed mothers had reduced risks



Note: Relative odds of inadequate care adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

Figure 4-5. Low-income fathers not covered by welfare, minority fathers, recent immigrants, and working fathers were more likely to have inadequate health care



Note: Relative odds of inadequate care adjusted for age, education level, income, and other variables shown.
Source: N. Zill (1998). Logistic regression analysis of data from 1990 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

income, and non-welfare poverty were major predictors of inadequate care for fathers (analysis table 4-2).

Smoking Is Only Behavior That A Majority of Parents Was Asked About During Their Most Recent Check-ups

A majority of American parents seems to have received preventive medical care within the usually prescribed interval, and rates of receiving check-ups did not vary greatly across social and demographic groups. Furthermore, the Medicaid program and the welfare safety net were clearly doing their job in the sense of making it possible for parents in low-income families to get preventive care. Why then did so many parents continue to show risky behavior and a lack of good health habits? And why did low-income parents who benefited from AFDC and Medicaid show higher rates of risky behavior and lower rates of good health habits than other parents, including those without any form of health insurance? Perhaps one reason is that health-related behavior is generally not covered adequately in the health care that American parents receive. And perhaps the care that Medicaid and welfare parents received is particularly deficient in this regard. These possibilities were explored by examining parent recollections about topics discussed at their most recent health check-ups.

One finding was that most providers who furnished primary care to American families did not seem to be providing parents with health care that was aimed at closely monitoring their health-related behavior and changing it where needed. Although doctors clearly did discuss *some* health-related behavior with *some* of their patients, the attention given to health-related behavior seemed too narrowly focused and not applied to a broad enough range of patients. Nor were doctors encouraging most parents to adopt positive habit patterns like exercising regularly.

There was only one health-related behavior that a majority of parents who had health check-ups recalled the doctor asking about: i.e., smoking cigarettes and other use of tobacco products. Fifty-seven percent of fathers and 52 percent of mothers said the doctor discussed this with them at their last check-up. Discussions of other health-related behaviors were only reported by minorities of mothers and fathers (figure 4-6). Specifically:

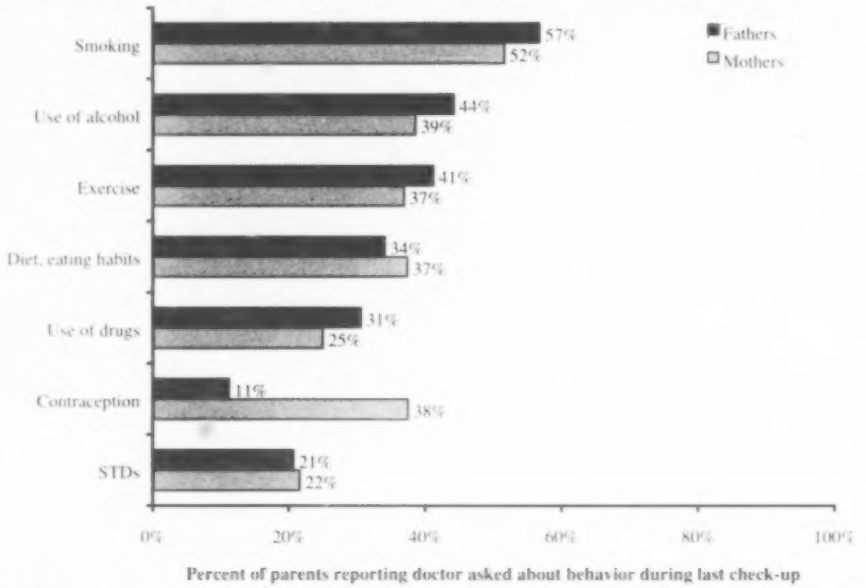
- Between forty and fifty percent of mothers and fathers reported that the doctor discussed their quantity and frequency of alcohol consumption.
- Between 30 and 40 percent reported that the doctor discussed the amount of their physical activity or exercise, and their diet and eating habits.
- Between 25 and 30 percent said the doctor discussed their use of marijuana, cocaine, or other drugs.
- More than a third of mothers—but only one in 9 fathers—reported that their provider asked about their use of contraceptives.
- Only about one mother or father in five said the doctor talked about sexually transmitted diseases (STDs).
- About one mother in five and one father in four reported that the doctor encouraged them to begin or continue exercising.

It is possible that many parents forgot topics that were actually covered in their health check-ups. But the more likely explanation is that most providers neglected to deal with these important health-related behaviors.

Behaviors Discussed With Doctors Varied With Sex, Age, and Class of Parents

The frequency with which doctors discussed specific behavior-related topics with parents varied with the sex and age of the parents, as well

Figure 4-6. Many behaviors not covered in majority of health check-ups

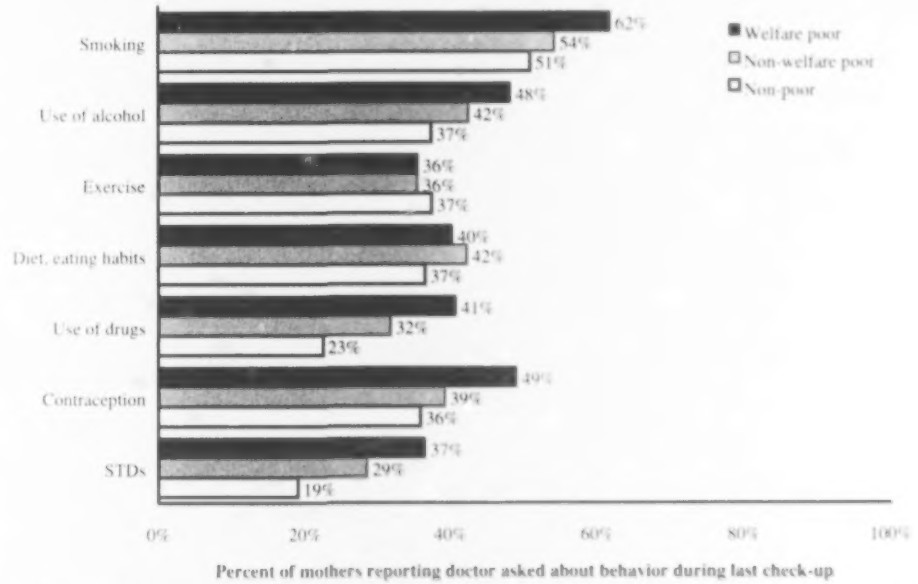


Source: N. Zill (1997). Tabulation of data from 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

as with parent education and family income levels, marital status, and the parent's racial or ethnic group. Some of this variation may have reflected doctors' attempts to be responsive to the particular requirements of women and men in different social situations and different stages of the life cycle, but much of it also seemed to conform to group stereotypes rather than individual needs (appendix tables 14 through 17). Here are some illustrative findings:

- The topic of contraceptives was discussed with mothers three times more frequently than it was with fathers. This seems to reflect the stereotyped notion that birth control and family planning are primarily the woman's responsibility.
- Behaviors doctors asked about more frequently with younger parents were the use of contraceptives, use of drugs, and sexually transmitted diseases. Fifty-nine percent of mothers aged 18-24 and 51 percent of those aged 25-29 reported discussing use of contraceptives with their doctors.
- Topics that doctors discussed more frequently with older parents were diet and eating habits, and exercise. For both of these topics, the age trend was more apparent for fathers than mothers.
- The topic of alcohol consumption was discussed more often with younger mothers (presumably because of discussions of the hazards of drinking during pregnancy and fetal alcohol syndrome), but with older fathers. Forty-nine percent of fathers aged 45-49 discussed their drinking habits with their doctors, and 46 percent of mothers aged 18-24 did so as well.
- Topics more commonly discussed with parents, especially mothers, in lower education and income groups were smoking, drug use, use of contraceptives, and sexually transmitted diseases.
- Topics discussed more frequently with parents, especially fathers, from higher education and income levels were diet and eating habits, alcohol use, and amount of physical activity or exercise.

Figure 4-7. Welfare mothers more likely than other mothers to be asked about health-related behaviors during check-ups



Source: N. Zill (1997). Tabulation of data from 1991 National Health Interview Survey, National Center for Health Statistics, U.S. Centers for Disease Control and Prevention.

- A 55-percent majority of never-married mothers reported that their doctors asked about their use of contraceptives during their last check-ups. The same was true of nearly half (49 percent) of Hispanic mothers.

Welfare Mothers More Likely To Be Questioned About Risky Behaviors

The notion that parents who were on welfare or Medicaid were less likely to have doctors who discussed health-related behaviors with them, and that such differences in care might account for their higher rates of risky behavior, was generally not supported by the data. In fact, the opposite was true (figure 4-7). Compared to non-poor mothers, welfare mothers were more likely to have been questioned by their doctors about: smoking (62 percent versus 51 percent); use of contraceptives (49 percent versus 36 percent); alcohol use (48 percent versus 37 percent); drug use (41 percent versus 23 percent); and sexually transmitted diseases (37 percent versus 19 percent). The only experience that welfare mothers reported less frequently than non-poor mothers was being encouraged by their doctors to begin or continue exercising (15 percent versus 22 percent). It was still the case that smoking was the only behavior discussed with a majority of welfare mothers, but other behaviors were discussed with larger minorities of welfare mothers than of non-poor mothers or poor mothers not on welfare.

Welfare fathers were equally or slightly more likely than non-poor fathers to have been asked by their doctors about drug use, use of contraceptives, smoking, diet and eating habits, and sexually transmitted diseases. They were less likely to have been asked about drinking or exercise. Welfare and non-poor fathers were about equally likely to have been encouraged to start or continue exercising regularly, although welfare fathers were more likely to have been urged to *start* exercising (13 percent versus 8

percent), whereas non-poor fathers were more likely to have been urged to *continue* exercising (16 percent versus 8 percent) (appendix tables 14 through 17).

Similar patterns of differences were found when the reports of parents covered by Medicaid were compared with those of privately insured mothers and fathers. Medicaid mothers were more likely than mothers with private health insurance to have been asked about smoking, alcohol use, drug use, use of contraceptives, and sexually transmitted diseases. For example, a 51-percent majority of Medicaid mothers reported that the doctor discussed the use of contraceptives with them during their last check-up, compared with 35 percent of privately insured mothers who reported the same (appendix tables 14 through 17).

Medicaid fathers were just as likely as privately insured fathers to have had discussions with their doctors about smoking, diet, drug use, and sexually transmitted diseases. Only in the areas of alcohol use and exercise were Medicaid fathers less likely to have been questioned by their doctors than privately insured fathers (appendix tables 14 through 17).

Parents Getting Preventive Care, But It Is Not Sufficiently Focused On Changing Behavior

We began this chapter by asking how many parents were getting preventive health care of the kind that gave them strong encouragement to end risky behavior patterns and adopt positive health habits. The survey data examined in this chapter showed that most American parents had gotten a health check-up in the last two years, that is, within the interval that doctors usually recommend for routine screening and preventive care. Furthermore, the proportions of parents who had gotten care within that interval did not vary greatly across social and demographic groups. Mothers without much formal education, recent immigrants, mothers in low-income families or from black or Hispanic backgrounds: a majority in all of these groups reported that they had gotten check-ups within the previous two years. The situation was not as good for fathers, but a majority of fathers in most groups, and at least close to half of fathers in all demographic groups had received check-ups.

Parents without any form of health insurance were less likely to have gotten check-ups than parents with private health insurance or Medicaid. And low-income parents who were not receiving welfare were less likely to have received check-ups than poor parents who did get welfare. These groups were also more likely to show other signs of inadequate care, such as not having a regular source of care, not having seen a doctor at all in the last two years, and not getting dental care in the last year. On the other hand, the frequency of check-ups was as high among those covered by Medicaid as among those with private insurance, and among the welfare poor as the non-poor. This indicates that the Medicaid program was operating as intended in making preventive care accessible to families who could otherwise not afford it. The recent expansion of Medicaid to include more two-parent, working poor, and near poor families has presumably broadened this access to preventive care still further.

Unfortunately, the evidence from parents' reports on what they were asked about in their check-ups was not as encouraging, especially given the large numbers of parents who engage in various forms of risky behavior or fail to practice good health habits. Ideally, one would like to see doctors ask *all* their patients about *all* the basic behaviors and habits that have been shown to have a relationship to disease prevention or health promotion. Instead, doctors seemed to be asking only *some* of their patients about a very limited number of behaviors, primarily smoking and one or two other behaviors that varied with the age, sex, and social situation of the patient.

Findings Call Effectiveness of Behavior-Change Efforts Into Question

Also not encouraging was the evidence as to the effectiveness of the behavior change efforts that did occur. The survey data showed that welfare parents and Medicaid parents were as likely as non-poor parents and more likely than non-welfare poor parents and parents without any health insurance to have received health check-ups within the last two years. Furthermore, the welfare and Medicaid parents generally got *more* questioning about their health-related behavior than non-poor parents or privately insured parents. Smoking and contraceptive use were the only behaviors discussed with majorities of welfare or Medicaid mothers, but other behaviors were discussed with larger minorities of welfare mothers than of non-poor mothers or poor mothers not on welfare, and with more Medicaid mothers than privately insured or uninsured mothers.

But the greater attention to behavioral issues did not result in lower rates of risky behavior in these groups. As shown in the previous chapter, parents covered by Medicaid showed higher rates of risky behavior than parents without any health insurance coverage. Likewise, welfare mothers showed higher rates of risky behavior than poor mothers who did not receive welfare.

Thus, the hypothesis that the higher rates of risky behavior (and lower rates of positive health habits) shown by welfare parents and parents covered by Medicaid might be due to these parents getting less preventive care and less care aimed at changing negative behavior patterns was clearly not supported by the survey data. This is not to say that the counseling that welfare and Medicaid parents were receiving during their health check-ups was not doing any good. It is perfectly possible that without the counseling they received, the welfare and Medicaid groups would have shown even higher rates of risky behavior. But it is to say that the counseling they were getting was not potent enough to overcome the forces that led to these groups having high rates of risky behavior in the first place.

More Comprehensive and Effective Efforts To Change Behavior Needed

The implications of the health-care findings for public health policy are somewhat contradictory. On the one hand, the findings imply that family physicians and public health clinics should be monitoring a broader range of health-related behaviors and doing more to encourage parents (and other adults) to abandon risky behaviors and adopt healthful habits. On the other hand, the findings suggest that current counseling procedures used by clinics and physicians may not be terribly effective in changing the behavior of low-income parents and other high-risk groups. This aspect of the findings raises questions about an assumption that has guided efforts to introduce managed care principles into Medicaid. That assumption is that putting more of an emphasis on prevention will reduce the costs of providing health care to low-income populations.

Lack of Health Insurance Impedes Expansion Of Preventive Care

The implications of the findings regarding the health care of parents without insurance coverage were much less ambiguous. Parents without coverage were less likely to have had a check-up within the usually prescribed interval and more likely to show signs of inadequate care. The same was true of "working poor" parents who did not have the protection of the welfare "safety net." One implication for health-care policy is that efforts to expand preventive care are being impeded by the large and possibly growing number of American adults who lack any health insurance coverage. Another implication is that recent legislation expanding the Medicaid program to cover more working poor and near-poor families was very much warranted. A question for the future monitoring is how many of these families actually take advantage of the expanded program.

Patterns of Preventive Care Use Consistent With Predictions of Resources Theory

A final observation on the theoretical implications of the health-care findings: Of the topics covered in the last few chapters—health status, emotional well-being, health-related behavior, utilization of preventive care—the pattern of results with respect to obtaining preventive care was most consistent with the predictions of resources theory. Those parents with a relative lack of economic and informational resources were less likely to have obtained a health check-up within the prescribed interval and more likely to have shown signs of inadequate care. Low-income parents who were provided with a specific and appropriate resource, namely, government subsidization of their medical care through the Medicaid program, obtained health check-ups at rates comparable to those of non-poor parents. They also showed significantly fewer signs of inadequate care than low-income parents not covered by Medicaid. Unfortunately, the higher rates of preventive care did not translate into proportionally lower rates of risky behavior.

Even in the domain of health-care utilization, where the predictions of resources theory seemed most closely confirmed, there was still evidence that advocates of dysfunctional behavior theory could point to as supportive of their position. Although the health-care expenses of welfare mothers were covered by the Medicaid program, and although their rates of signs of inadequate care were lower in frequency than those of the non-welfare poor, welfare mothers still showed signs that they were neglecting their own medical care more often than non-poor mothers did.

The primary health care indicator that showed significant differences between welfare and non-poor mothers was not having any dental visits in the last year. Although parents' failure to get regular dental check-ups may not appear to be a major public health problem, the lack of such care has been found to be indicative of other forms of medical neglect, such as the failure to get one's children immunized in a timely fashion. Once again, then, the survey findings seem to imply that merely making appropriate resources available to parents who lack them may not be enough. Public health programs may need to include efforts to teach and encourage parents to make optimum and responsible use of the services that are available.

Notes to Chapter 4

1. Data on the recency of the last check-up came from the Health Promotion and Disease Prevention Supplement to the 1991 National Health Interview Survey.

2. The data on inadequate health care came from the Health Promotion and Disease Prevention Supplement to the 1990 National Health Interview Survey.

3. In the HPDP Supplement to the 1991 National Health Interview Survey, respondents who reported having had a check-up at some point were asked a series of follow-up questions about the content of the check-up. "During this last check-up, were you asked about: Your diet and eating habits?...The amount of physical activity or exercise you get?...Whether you smoke cigarettes or use other forms of tobacco?...How much and how often you drink alcohol?...Whether you use marijuana, cocaine, or other drugs?...Sexually transmitted diseases?...The use of contraceptives?" (This last item was asked only of respondents under the age of 50). Later in the survey interview, following a series of questions about sports participation and exercise, respondents who had had a check-up within the last year were asked: "During your last routine check-up, did the doctor or other health professional recommend that you *begin* or *continue* to do any type of exercise or physical activity?" Responses to each of these questions were used to determine what percentage of mothers and fathers had received medical advice or encouragement about specific forms of health-related behavior.

Chapter 5

Setting An Example

As noted at the beginning of this report, the health of American parents is important for a number of reasons, not the least of which is that these are the women and men who are raising the next generation of citizens and workers. Parenthood is a difficult, demanding job from which there is no vacation. How good a job individual parents do depends in part on how physically fit and mentally healthy they are. Many people believe that the fitness of today's parents is being threatened by developments like the high levels of family disruption in our society, the growing numbers of people bearing and rearing children outside marriage, the increased numbers of families in which both parents or single parents work outside the home, the older ages at which women and men are entering into parenthood, and the substantial minority of parents who are raising their children in or near poverty. However, only two of these were actually found to be clearly associated with ill health, stress, and detrimental health behavior in parents. These were family disruption due to separation or divorce, and family poverty.

"Unfit" Parents

At first glance, the national health survey data presented in this report seem to indicate that these concerns are justified. They show that large numbers of today's parents are "unfit" in one way or another. One parent in eight was in poor or fair health or had a health-related limitation in activity. One parent in thirty had both. Nearly half of all mothers and forty percent of all fathers experienced high levels of stress during the last year. One mother in eight and one father in sixteen had sought professional help for emotional problems in the last year.

Most disquieting was the finding that large numbers of parents were endangering their children's health as well as their own, and setting a bad example for their offspring, by engaging in risky health-related behaviors. Four in ten fathers and one in three mothers engaged in at least one of three risky behavior patterns: smoking cigarettes, or being overweight and sedentary, or drinking heavily and driving while intoxicated. Among some groups of parents, like those who had not completed high-school or those who were separated or divorced, risk-taking mothers and fathers were in the majority. It would not be exaggerating to conclude from these findings that one of the most serious threats to the health of American children is the behavior of their own parents.

Marital Disruption, Low Education, Family Poverty Linked To Ill Health and Risky Behavior

Upon closer examination, only two of the increasing family situations mentioned above were clearly associated with ill health, stress, and detrimental behavior in parents. These were family disruption due to separation or divorce, and family poverty. The evidence with regard to the other trends—the growing numbers of unmarried parents, working parents, and older first-time parents—was either ambiguous or not supportive of the notion that these family situations were contributing to a lack of fitness in parents. Another factor that was strongly and consistently associated with ill health and detrimental behavior was lower parent education levels. Indeed, in most instances, low education had a stronger relationship with poor health and

risky behavior than did low income. Of course, in our society, low education and low income are closely intertwined: it is rare for one to occur without the other. Fortunately, as far as over-time trends are concerned, low parent education levels are becoming less common in the U.S. as more adults finish high school and get at least some post-high school training.

Recent Immigrants Have Healthier Lifestyles

One group that is slowing the trend toward universal high school education is comprised of recent immigrants from countries, especially Mexico and other Latin America nations, that afford less educational opportunity to all young citizens than is provided in the U.S. But recent immigrant parents and parents with a grade school education or less were also the subjects of another surprising and disquieting finding. These two groups—which have many individual parents in common—showed *lower* levels of risky behavior than their apparently more advantaged fellow parents. Parents with grade school education showed lower levels of risk behavior than high-school dropouts and high-school graduates, though not lower than parents with college education. Recent immigrant parents showed lower levels of risk behavior than native-born parents and longer-term immigrants, especially after factors like education, income, and race were statistically controlled.

What this seems to indicate is that the culture of the traditional societies from which many recent immigrant parents come is conducive to healthier patterns of living than is contemporary U.S. culture, despite the lower education levels and more limited opportunities for advancement that the traditional societies provide. As immigrant parents become acculturated to U.S. society—or at least to the relatively disadvantaged urban communities in which most recent immigrant families live—their health-related behavior becomes *worse*, not better. Other studies of health-related behaviors of recent immigrants and their children have produced similar results.[1]

This finding bolsters the judgment that there *is* something about the ways in which American society is changing that is making it more difficult for parents to lead healthful, low-stress lives and set good examples for their offspring. Increasing family disruption and diminishing economic opportunities for adults with limited skills may comprise a large part of the unhealthful change. But there may be something more going on as well, perhaps stress associated with the rapid pace of technological and occupational change, and the loss of a sense of common community, shared values, and social supports as American society becomes increasingly individualistic and materialistic in its orientation.

What should the medical profession and public health community be doing about what the survey data reveal regarding the high levels of risky behavior and low levels of sensible health habits among American parents?

Needed: A Public Health Program To Improve Parents' Behavior

Nowadays, nearly everyone recognizes the ill effects of tobacco on human health and the importance of preventing young people from taking up smoking. The argument is a simple and convincing one. Most individuals who get past the age of twenty without starting to smoke remain free of the habit for the rest of their lives. If no teenagers begin to smoke, smoking and its costly health consequences will gradually disappear from the scene. As this reasoning has gained acceptance in the public health community, tobacco companies have come under attack for targeting cigarette advertising campaigns, like the infamous "Joe Camel" cartoon, at teenagers and even preteenagers. The companies have been forced to curtail these campaigns.

Joe Camel is no longer up on billboards across America, conveying the message that smoking is

hip. Nor is he to be found in the advertising pages of youth-oriented magazines. But many young people are still exposed to compelling "advertisements" for smoking every day, right in their own homes. And even if their parents and older siblings do not smoke, most young people have friends or acquaintances at school or on the job who not only act as models of smoking behavior, but who actively recruit other teens into the still sizable ranks of coolly defiant young smokers. Yet the public health community, which has been so vociferous in trying to get tobacco companies to change their ways, has been curiously silent about the roles that parents and peers play in starting young people down the path to nicotine addiction.

The national survey data presented in this report showed that one in three fathers and one in four mothers living with children under 18 years of age endangered their own health and that of their children, and set a bad example for their offspring by smoking regularly. Four in ten fathers and one in three mothers engaged in at least one of three risky behavior patterns: smoking, or being overweight and sedentary, or drinking heavily and driving while intoxicated. However, there is no massive public health campaign to try to change the behavior of American parents for the better. Instead, the national survey data show that doctors and clinics that provided medical care to American parents were not even doing an adequate job of identifying and discussing detrimental and protective behaviors with parents who came in for health check-ups, let alone of getting mothers and fathers to modify their behavior in positive ways.

The vast majority of American parents had seen a doctor at least once in the last two years. Three-quarters of mothers and 55 percent of fathers reported that they had had health check-ups within that interval. A bare majority of those who were examined reported that the doctor or nurse discussed smoking and other use of tobacco with them during the check-up. And this was the *only* health-related behavior that was addressed with a majority of mothers and fathers. Less than half reported that their doctors asked them about their drinking habits, activity and exercise routines, diet, drug use, contraceptive use, or sexually-transmitted diseases.

One encouraging and unexpected finding was that groups of parents who were at higher risk of engaging in negative health behaviors, such as welfare mothers, were more likely to have had their doctors talk with them about risky behaviors. But these discussions did not seem to be sufficient to produce meaningful behavior changes. The national surveys found that parents covered by Medicaid had higher rates of smoking and heavy drinking than parents with no health insurance coverage and parents from low-income families who were not getting welfare. The latter groups were less likely to have received counseling about health-related behavior, as well as less likely to have gotten health check-ups at all.

A reasonable conclusion from the survey results is that doctors and clinics that treat adults with children should be doing a more thorough and systematic job of questioning parents about their health-related behaviors, as well as of helping parents to modify those behaviors in salutary directions. At the same time, the apparent lack of success that doctors are having in producing improved health habits in their most vulnerable patient populations means that primary care providers need to acquire more effective means for encouraging behavior change.

Focusing On Parental Ties May Increase Motivation To Change

It might just be that focusing on parental ties and obligations is a way of increasing adults' motivation to change their health habits. As noted in the Introduction, parents have reasons for modifying unhealthful lifestyles that go beyond self-preservation. Their behavior can directly affect the health of their children as well as the health of the parents themselves. If they harm their own health, it means they will be less fit as caregivers and economic providers. And parents who engage in risky behaviors set a bad example for their teenaged sons and daughters, as they

start to acquire health-related habits of their own. By reminding parents of these reasons for taking care of themselves, physicians might gain additional leverage that would help loosen the grip of tenacious habit patterns.

The transition to parenthood is a natural occasion for behavior change, because the woman and man involved take on new social roles and are open to advice and guidance about how they should act in these roles. Their life circumstances and daily routines also change dramatically. Recent longitudinal studies by Jerald Bachman and his colleagues at the University of Michigan show that young persons tend to reduce their rates of drug and alcohol use after becoming parents for the first time.[2] Primary care physicians should be taking advantage of the opportunities that these transitions provide. They should review the full range of health-related behaviors with their patients who have become or are about to become parents, and ask those who are engaging in detrimental behaviors to make a commitment to change their ways. The physician should follow up in subsequent visits to goad those who have not yet changed, bolster the resolve of those who have, and keep the latter from slipping back into old habits. Currently, very few doctors or clinics have adopted systematic plans for attacking the negative behaviors of their patients who are parents. It is time they did so.

Responding To Arguments About the Limits of Family Influence

Some would argue that the influence that parents have on the health-related behavior of their offspring is not as great as usually thought. These critics contend that much of the apparent link between parent behavior and youth behavior is due to shared genes rather than the influence of family environment. They point to evidence from adoption and twin studies that shows, for instance, that the correlation between parental smoking and children taking up smoking as teenagers is relatively weak when parents raise children who are genetically unrelated to them.[3]

Even if we concede that genetics plays an important role in determining how susceptible an individual is to nicotine addiction and how likely he is to practice or not practice other health-related behaviors, there are at least two reasons for arguing against the proposition that parents can have little influence on youthful behavior. First, there have been dramatic changes over the last several decades in the overall prevalence of a number of youthful behaviors that have important health consequences, including tobacco smoking, marijuana and cocaine use, and sexual intercourse outside of marriage. Increases and decreases in the prevalence of these behaviors occurred with such rapidity that changes in the relative frequency of different genotypes in the population could not possibly have played a major role in their growth or decline. Genetic changes such as these occur much too slowly to account for the rapid changes we have witnessed. Changes in the social environment must have been responsible.[4]

Second, we know that when families have strong objections to smoking, drinking, and other risky behaviors in their offspring, objections that are grounded in a set of principled beliefs, and when those objections and beliefs are supported by the communities in which the families reside, rates of youthful misconduct tend to be much lower than they are among American youth in general. Examples include young people who grow up in Mormon families, Amish families, or Hasidic Jewish families. Among the things that parents in these families do to combat the negative influence of peers and the popular culture is to work actively to encourage fraternization with other youth whose families share the same values and discourage their adolescent children from socializing with peers who have very different values. They also work to limit and regulate the types of books, records, films, and radio and television programs to which their offspring are exposed. So even if changes in the prevalence of specific youthful behaviors are related primarily to shifts in public opinion and the actions of peer exemplars *outside* the family, it is possible for families to exercise some control over the extent

to which their offspring are affected by these extrafamilial influences.

To be sure, most families are not as activist in combating negative peer and media influences as are parents in the religious groups just mentioned. Also, more research is needed to really establish just how much of an influence parental example has on different forms of health-related behavior in youth, and how the link between parental and offspring behavior may be strengthened or moderated by the closeness of the relationship between the youth and his or her parents. Nevertheless, no matter how that research might eventually turn out, it would be beneficial to get more parents to lower their rates of risky behavior, if only because of the second-hand effects that such behavior can have on the health of young people.

Although some health-related habits and behaviors have proven difficult to change on the individual level once established, recent experience gives cause for optimism on the group level. For example, age-adjusted smoking rates by adults 25 and over in the U.S. dropped from over 37 percent in 1974 to less than 26 percent in 1990. Although rates have leveled off since then, the 30-percent decline in smoking prevalence over a 15-year period shows that significant change can be achieved within a fairly short time-period. Likewise, the prevalence of heavy drinking among adults 18 and over dropped by a quarter – from 12 percent to 9 percent – between 1985 and 1990.[5] Information from birth certificates shows that between 1990 and 1996 there was a 26-percent decline in smoking during pregnancy among expectant mothers. The rate of smoking during pregnancy fell from 18.4 percent in 1990 to 13.6 percent in 1996.[6]

If more American parents become determined to "set a good example" for their children, further improvements in health-related behavior of this magnitude or greater may be accomplished.

Notes to Chapter 5

1. Hernandez & Charney (Eds.) (1998). *From generation to generation: The health and well-being of children in immigrant families*; Ventura (1993). Maternal and infant health characteristics of births to U.S. and foreign-born Hispanic mothers; Ventura & Taffel (1985). Childbearing characteristics of U.S.- and foreign-born Hispanic mothers; Ventura (1988). Births of Hispanic parentage, 1985.

2. Bachman & Wadsworth (1997). *Smoking, drinking, and drug use in young adulthood: The impact of the new freedoms and new responsibilities.*

3. Harris (1998). *The nurture assumption: Why children turn out the way they do*; Rowe (1994). *The limits of family influence: Genes, experience, and behavior.*

4. National Center for Education Statistics (1994). *Youth indicators, 1993*; National Center for Health Statistics (1997). *Health, United States, 1996-97*. Table 66. Use of selected substances in the past month by persons 12 years old and over: United States, 1979-95, pp. 184-185; Ventura, Curtin, & Mathews (1998). Teenage births in the United States: National and state trends, 1990-96; Stunkard *et al.* (1986). An adoption study of human obesity; Hill & Peters (1998). Environmental contributions to the obesity epidemic; Taubes (1998). As obesity rates rise, experts struggle to explain why.

5. National Center for Health Statistics (1997). *Health, United States, 1996-97*. Table 65. Age-adjusted prevalence of current cigarette smoking by persons 25 years of age and over: United States, selected years 1974-94, p. 183; Table 69. Alcohol consumption by persons 18 years of age and over: United States, 1985 and 1990, p. 189.

6. Mathews (1998). Smoking during pregnancy, 1990-96.

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Analysis Table 1-1. Predicting mother has fair or poor health or activity limitation from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.42**	0.14	-0.07	0.66
Age Group	0.24***	0.03	0.17	1.27
Marital Status				
Separated	0.34*	0.15	0.04	1.41
Divorced	0.26*	0.13	0.04	1.29
Widowed	0.72**	0.23	0.05	2.05
Never Married	0.36*	0.15	0.05	1.44
Education				
Education Level	-0.31***	0.04	-0.18	0.73
Grade school only	0.15	0.16	0.02	1.16
Employment and Income				
Parent works	-0.38***	0.08	-0.10	0.68
Income level	-0.23***	0.04	-0.14	0.80
Welfare and Poverty				
Welfare Poor	0.38**	0.15	0.05	1.46
Non-Welfare Poor	0.23†	0.14	0.03	1.26
Parent's Race/Ethnicity				
Black	0.11	0.11	0.02	1.12
Hispanic	-0.08	0.14	-0.01	0.92
Asian, Pacific Islander	0.29	0.29	0.02	1.33
American Indian	-0.43	0.45	-0.02	0.65
Immigration Status				
Recent (<15 years)	-0.40*	0.19	-0.05	0.67
Longer Term (15 years plus)	-0.15	0.18	-0.02	0.86
Intercept	-1.06***	0.18		
Multiple R (Somer's D)	0.39***		N = 8,510	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 1-2. Predicting father has fair or poor health or activity limitation from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.85***	0.24	-0.12	0.43
Age Group	0.23***	0.03	0.20	1.26
Marital Status				
Separated	0.15	0.41	0.01	1.17
Divorced	0.46†	0.24	0.04	1.59
Widowed	0.40	0.43	0.02	1.49
Never Married	0.77**	0.27	0.07	2.16
Education				
Education Level	-0.18***	0.04	-0.13	0.84
Grade school only	0.03	0.18	0.00	1.03
Employment and Income				
Parent works	-1.95***	0.13	-0.30	0.14
Income level	-0.20***	0.05	-0.14	0.82
Welfare and Poverty				
Welfare Poor	-0.22	0.27	-0.02	0.81
Non-Welfare Poor	0.31†	0.17	0.05	1.37
Parent's Race/Ethnicity				
Black	-0.15	0.14	-0.03	0.86
Hispanic	-0.04	0.17	-0.01	0.96
Asian, Pacific Islander	0.24	0.29	0.02	1.27
American Indian	-0.02	0.42	0.00	0.98
Immigration Status				
Recent (<15 years)	-0.57*	0.22	-0.09	0.57
Longer Term (15 years plus)	-0.06	0.21	-0.01	0.94
Intercept	0.26	0.21		
Multiple R (Somer's D)	0.41***		N = 4,847	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 1-3. Predicting mother has fair or poor health or activity limitation from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.43**	0.14	-0.07	0.65
Age Group	0.24***	0.03	0.17	1.27
Marital Status				
Married -- High Stress	0.67***	0.09	0.16	1.95
Separated	0.65***	0.16	0.07	1.92
Divorced	0.58***	0.14	0.08	1.79
Widowed	1.03***	0.24	0.07	2.79
Never Married	0.68***	0.15	0.09	1.97
Education				
Education Level	-0.31***	0.04	-0.18	0.73
Grade school only	0.16	0.16	0.02	1.18
Employment and Income				
Parent works	-0.41***	0.08	-0.10	0.66
Income level	-0.23***	0.04	-0.14	0.80
Welfare and Poverty				
Welfare Poor	0.33*	0.15	0.05	1.39
Non-Welfare Poor	0.21	0.14	0.03	1.23
Parent's Race/Ethnicity				
Black	0.15	0.11	0.03	1.17
Hispanic	-0.03	0.14	-0.01	0.97
Asian, Pacific Islander	0.37	0.29	0.03	1.45
American Indian	-0.46	0.45	0.02	0.63
Immigration Status				
Recent (<15 years)	-0.32†	0.19	-0.04	0.73
Longer Term (15 years plus)	-0.08	0.18	-0.01	0.92
Intercept	-1.36***	0.19		
Multiple R (Somer's D)	0.42***		N = 8,510	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 1-4. Predicting father has fair or poor health or activity limitation from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.82***	0.24	-0.12	0.44
Age Group	0.25***	0.03	0.22	1.29
Marital Status				
Married -- High Stress	0.82***	0.09	0.24	2.27
Separated	0.46	0.41	0.02	1.58
Divorced	0.80**	0.24	0.07	2.22
Widowed	0.72†	0.43	0.04	2.05
Never Married	1.09***	0.28	0.10	2.98
Education				
Education Level	-0.21***	0.04	-0.16	0.81
Grade school only	0.04	0.18	0.01	1.04
Employment and Income				
Parent works	-1.91***	0.13	-0.29	0.15
Income level	-0.21***	0.05	-0.15	0.81
Welfare and Poverty				
Welfare Poor	-0.21	0.28	-0.02	0.81
Non-Welfare Poor	0.28	0.17	0.04	1.32
Parent's Race/Ethnicity				
Black	-0.10	0.14	-0.02	0.91
Hispanic	-0.02	0.17	0.00	0.98
Asian, Pacific Islander	0.27	0.29	0.03	1.31
American Indian	0.02	0.42	0.00	1.02
Immigration Status				
Recent (<15 years)	-0.41†	0.22	-0.06	0.66
Longer Term (15 years plus)	0.04	0.21	0.00	1.04
Intercept	-0.09	0.22		
Multiple R (Somer's D)	0.46***		$\vec{N}$ = 4,847	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 2-1. Predicting mother experienced a lot of stress from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.02	0.09	0.00	1.02
Age Group	0.00	0.02	0.00	1.00
Marital Status				
Separated	0.87***	0.12	0.10	2.40
Divorced	0.58***	0.09	0.08	1.78
Widowed	0.58**	0.19	0.04	1.79
Never Married	0.17	0.11	0.02	1.18
Education				
Education Level	0.03	0.03	0.02	1.03
Grade school only	-0.08	0.14	-0.01	0.92
Employment and Income				
Parent works	0.25***	0.05	0.06	1.28
Income level	0.02	0.03	0.01	1.02
Welfare and Poverty				
Welfare Poor	0.43***	0.11	0.06	1.54
Non-Welfare Poor	0.26*	0.11	0.04	1.30
Parent's Race/Ethnicity				
Black	-0.45***	0.08	-0.08	0.64
Hispanic	-0.43***	0.10	-0.07	0.65
Asian, Pacific Islander	-0.65**	0.21	-0.05	0.52
American Indian	0.01	0.28	0.00	1.01
Immigration Status				
Recent (<15 years)	-0.43**	0.13	-0.05	0.65
Longer Term (15 years plus)	-0.44***	0.13	-0.05	0.65
Intercept	-0.56***	0.12		
Multiple R (Somer's D)	0.22***		N = 8,367	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 2-2. Predicting father experienced a lot of stress from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.21	0.14	-0.03	0.81
Age Group	-0.09***	0.02	-0.08	0.92
Marital Status				
Separated	0.88**	0.31	0.05	2.40
Divorced	0.82***	0.18	0.07	2.26
Widowed	-0.30	0.35	-0.01	0.74
Never Married	-0.69**	0.24	-0.06	0.50
Education				
Education Level	0.11***	0.03	0.08	1.12
Grade school only	-0.11	0.15	-0.01	0.90
Employment and Income				
Parent works	-0.52***	0.12	-0.08	0.59
Income level	0.07*	0.03	0.05	1.07
Welfare and Poverty				
Welfare Poor	0.12	0.25	0.01	1.12
Non-Welfare Poor	0.36**	0.14	0.05	1.43
Parent's Race/Ethnicity				
Black	-0.27**	0.10	-0.05	0.77
Hispanic	-0.26*	0.12	-0.05	0.77
Asian, Pacific Islander	-0.15	0.21	-0.01	0.86
American Indian	-0.56†	0.33	-0.03	0.57
Immigration Status				
Recent (<15 years)	-0.71***	0.15	-0.11	0.49
Longer Term (15 years plus)	-0.31*	0.16	-0.04	0.74
Intercept	-0.25	0.16		
Multiple R (Somer's D)	0.19***		N = 4,753	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 2-3.
Predicting mother's negative feelings scale score from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	
Age			
Young Parent (18-24)	0.19*	0.08	
Age Group	-0.10***	0.02	
Marital Status			
Separated	1.01***	0.11	
Divorced	0.75***	0.09	
Widowed	0.48**	0.18	
Never Married	0.29**	0.10	
Education			
Education Level	-0.24***	0.02	
Grade school only	-0.27*	0.12	
Employment and Income			
Parent works	-0.26***	0.05	
Income level	-0.13***	0.03	
Welfare and Poverty			
Welfare Poor	0.73***	0.12	
Non-Welfare Poor	0.29**	0.10	
Parent's Race/Ethnicity			
Black	0.36***	0.08	
Hispanic	-0.16†	0.09	
Asian, Pacific Islander	0.05	0.16	
American Indian	0.32	0.25	
Immigration Status			
Recent (<15 years)	-0.27*	0.11	
Longer Term (15 years plus)	0.19†	0.11	
Intercept	2.93***	0.11	
Multiple R (Somer's D)	0.33***		N = 8,807

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Linear regression analysis of data from National Center for Health Statistics, 1991 National Health Interview Survey.

Analysis Table 2-4.
Predicting father's negative feelings scale score from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	
Age			
Young Parent (18-24)	0.62***	0.11	
Age Group	-0.01	0.02	
Marital Status			
Separated	0.97***	0.23	
Divorced	0.37*	0.17	
Widowed	0.40	0.25	
Never Married	0.17	0.18	
Education			
Education Level	-0.11***	0.02	
Grade school only	-0.07	0.12	
Employment and Income			
Parent works	-1.00***	0.11	
Income level	-0.09**	0.03	
Welfare and Poverty			
Welfare Poor	0.10	0.23	
Non-Welfare Poor	0.37**	0.11	
Parent's Race/Ethnicity			
Black	-0.15†	0.09	
Hispanic	-0.12	0.10	
Asian, Pacific Islander	-0.09	0.16	
American Indian	0.59*	0.26	
Immigration Status			
Recent (<15 years)	-0.50***	0.11	
Longer Term (15 years plus)	0.03	0.12	
Intercept	2.74***	0.15	
Multiple R (Somer's D)	0.28***		N = 5,039

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$
Source: Zill, N. (1998). Linear regression analysis of data from National Center for Health Statistics, 1991 National Health Interview Survey.

Analysis Table 2-5. Predicting mother's extreme negative feelings score from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.05	0.13	0.01	1.05
Age Group	-0.09*	0.04	-0.06	0.91
Marital Status				
Separated	0.83***	0.16	0.09	2.30
Divorced	0.81***	0.14	0.11	2.24
Widowed	-0.01	0.34	0.00	0.99
Never Married	0.26	0.16	0.04	1.29
Education				
Education Level	-0.40***	0.05	-0.23	0.67
Grade school only	-0.06	0.19	-0.01	0.95
Employment and Income				
Parent works	-0.32***	0.09	-0.08	0.73
Income level	-0.23***	0.06	-0.14	0.80
Welfare and Poverty				
Welfare Poor	0.25	0.18	0.03	1.28
Non-Welfare Poor	0.17	0.16	0.03	1.19
Parent's Race/Ethnicity				
Black	0.34**	0.12	0.06	1.40
Hispanic	-0.34*	0.17	-0.06	0.71
Asian, Pacific Islander	-0.09	0.40	-0.01	0.92
American Indian	0.48	0.38	0.02	1.62
Immigration Status				
Recent (<15 years)	-0.46*	0.23	-0.06	0.63
Longer Term (15 years plus)	0.22	0.22	0.03	1.25
Intercept	-0.70**	0.23		
Multiple R (Somer's D)	0.46***		N = 8,807	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1991 National Health Interview Survey

Analysis Table 2-6. Predicting father's extreme negative feelings score from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.79**	0.26	0.11	2.20
Age Group	0.12*	0.05	0.10	1.13
Marital Status				
Separated	0.88*	0.44	0.06	2.40
Divorced	0.80*	0.33	0.07	2.22
Widowed	0.69	0.50	0.04	2.00
Never Married	-0.52	0.46	-0.04	0.59
Education				
Education Level	-0.39***	0.08	-0.29	0.68
Grade school only	-0.26	0.29	-0.03	0.77
Employment and Income				
Parent works	-1.18***	0.20	-0.18	0.31
Income level	-0.09	0.09	-0.06	0.91
Welfare and Poverty				
Welfare Poor	0.04	0.43	0.00	1.04
Non-Welfare Poor	0.69**	0.25	0.11	1.99
Parent's Race/Ethnicity				
Black	-0.53*	0.26	-0.09	0.59
Hispanic	-0.14	0.28	-0.03	0.87
Asian, Pacific Islander	-0.35	0.70	-0.04	0.70
American Indian	0.15	0.56	0.01	1.16
Immigration Status				
Recent (<15 years)	-1.45**	0.52	-0.22	0.23
Longer Term (15 years plus)	0.06	0.35	0.01	1.06
Intercept	-1.38***	0.39		
Multiple R (Somer's D)	0.46***		N = 5,039	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1991 National Health Interview Survey

Analysis Table 2-7. Predicting mother sought professional help for emotional problems from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.49**	0.16	-0.08	0.61
Age Group	0.01	0.03	0.01	1.01
Marital Status				
Separated	1.16***	0.14	0.13	3.18
Divorced	1.11***	0.11	0.16	3.04
Widowed	0.63*	0.25	0.04	1.87
Never Married	0.11	0.19	0.02	1.12
Education				
Education Level	0.10**	0.04	0.06	1.11
Grade school only	-0.52*	0.26	-0.05	0.60
Employment and Income				
Parent works	-0.04	0.08	-0.01	0.96
Income level	0.12**	0.04	0.07	1.12
Welfare and Poverty				
Welfare Poor	0.28	0.17	0.04	1.32
Non-Welfare Poor	0.21	0.16	0.03	1.24
Parent's Race/Ethnicity				
Black	-0.62***	0.13	-0.11	0.54
Hispanic	-0.16	0.15	-0.03	0.85
Asian, Pacific Islander	-0.83*	0.39	-0.06	0.44
American Indian	-0.19	0.42	-0.01	0.83
Immigration Status				
Recent (<15 years)	-0.53*	0.24	-0.06	0.59
Longer Term (15 years plus)	-0.50*	0.21	-0.06	0.61
Intercept	-2.60***	0.18		
Multiple R (Somer's D)	0.31***		N = 8,369	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 2-8. Predicting father sought professional help for emotional problems from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.04	0.32	0.01	1.04
Age Group	0.08†	0.04	0.07	1.08
Marital Status				
Separated	0.91*	0.47	0.05	2.49
Divorced	1.14***	0.26	0.10	3.13
Widowed	-0.35	0.83	-0.02	0.70
Never Married	-0.51	0.54	-0.05	0.60
Education				
Education Level	0.18***	0.05	0.13	1.19
Grade school only	-0.72†	0.43	-0.10	0.49
Employment and Income				
Parent works	-1.47***	0.18	-0.22	0.23
Income level	0.07	0.07	0.05	1.07
Welfare and Poverty				
Welfare Poor	-0.36	0.47	-0.03	0.70
Non-Welfare Poor	-0.16	0.31	-0.02	0.85
Parent's Race/Ethnicity				
Black	-0.11	0.21	-0.02	0.89
Hispanic	-0.21	0.28	-0.04	0.81
Asian, Pacific Islander	-0.91	0.67	-0.09	0.40
American Indian	0.32	0.55	0.02	1.38
Immigration Status				
Recent (<15 years)	-1.23***	0.46	-0.19	0.29
Longer Term (15 years plus)	-0.67†	0.40	-0.09	0.51
Intercept	-2.30***	0.29		
Multiple R (Somer's D)	0.29***		N = 4,761	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 2-9. Predicting mother sought professional help for emotional problems from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.56**	0.16	-0.09	0.57
Age Group	0.00	0.03	0.00	1.00
Marital Status				
High-Stress Married	1.73***	0.10	0.41	5.62
Separated	2.18***	0.16	0.24	8.85
Divorced	2.15***	0.14	0.30	8.61
Widowed	1.66***	0.26	0.11	5.24
Never Married	1.15***	0.20	0.16	3.15
Education				
Education Level	0.10**	0.04	0.06	1.11
Grade school only	-0.52*	0.26	-0.06	0.59
Employment and Income				
Parent works	-0.15†	0.08	-0.04	0.86
Income level	0.12**	0.04	0.08	1.13
Welfare and Poverty				
Welfare Poor	0.14	0.17	0.02	1.15
Non-Welfare Poor	0.11	0.17	0.02	1.12
Parent's Race/Ethnicity				
Black	-0.57***	0.13	-0.10	0.56
Hispanic	-0.08	0.15	-0.01	0.92
Asian, Pacific Islander	-0.61	0.40	-0.04	0.55
American Indian	-0.30	0.42	-0.01	0.74
Immigration Status				
Recent (<15 years)	-0.43†	0.24	-0.05	0.65
Longer Term (15 years plus)	-0.40†	0.22	-0.05	0.67
Intercept	-3.52***	0.19		
Multiple R (Somer's D)	0.47***		N = 8,369	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from 1990 National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 2-10. Predicting father sought professional help for emotional problems from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.15	0.33	0.02	1.17
Age Group	0.11*	0.04	0.09	1.11
Marital Status				
High-Stress Married	1.37***	0.13	0.40	3.92
Separated	1.62***	0.48	0.09	5.04
Divorced	1.84***	0.27	0.16	6.27
Widowed	0.37	0.83	0.02	1.45
Never Married	0.20	0.55	0.02	1.22
Education				
Education Level	0.15*	0.05	0.11	1.16
Grade school only	-0.74†	0.43	-0.10	0.48
Employment and Income				
Parent works	-1.37***	0.19	-0.21	0.26
Income level	0.06	0.07	0.04	1.06
Welfare and Poverty				
Welfare Poor	-0.35	0.48	-0.03	0.71
Non-Welfare Poor	-0.31	0.31	-0.05	0.73
Parent's Race/Ethnicity				
Black	-0.07	0.21	-0.01	0.93
Hispanic	-0.22	0.28	-0.04	0.81
Asian, Pacific Islander	-0.97	0.67	-0.09	0.38
American Indian	0.47	0.56	0.03	1.60
Immigration Status				
Recent (<15 years)	-0.98*	0.47	-0.15	0.37
Longer Term (15 years plus)	-0.54	0.40	-0.07	0.58
Intercept	-3.10***	0.30		
Multiple R (Somer's D)	0.47***		N = 4,761	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from 1990 National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-1. Predicting mother's high-risk health behavior from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.30**	0.09	-0.05	0.74
Age Group	0.01	0.02	0.01	1.01
Marital Status				
Separated	0.52***	0.12	0.06	1.69
Divorced	0.32***	0.10	0.05	1.38
Widowed	0.33†	0.19	0.02	1.39
Never Married	0.18	0.11	0.03	1.20
Education				
Education Level	-0.43***	0.03	-0.25	0.65
Grade school only	-0.32*	0.14	-0.04	0.72
Employment and Income				
Parent works	0.19**	0.06	0.05	1.20
Income level	-0.15***	0.03	-0.09	0.86
Welfare and Poverty				
Welfare Poor	0.52***	0.12	0.07	1.69
Non-Welfare Poor	0.12	0.11	0.02	1.13
Parent's Race/Ethnicity				
Black	-0.55***	0.09	-0.10	0.57
Hispanic	-0.45***	0.10	-0.07	0.64
Asian, Pacific Islander	-0.97***	0.28	-0.07	0.38
American Indian	0.23	0.29	0.01	1.26
Immigration Status				
Recent (<15 years)	-0.77***	0.15	-0.10	0.46
Longer Term (15 years plus)	-0.48***	0.14	-0.05	0.62
Intercept	0.81***	0.13		
Multiple R (Somer's D)	0.36***		N = 8,453	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-2. Predicting father's high-risk health behavior from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.08	0.13	0.01	1.08
Age Group	0.05*	0.02	0.04	1.05
Marital Status				
Separated	0.19	0.31	0.01	1.20
Divorced	0.62**	0.19	0.05	1.86
Widowed	0.74*	0.34	0.04	2.10
Never Married	-0.22	0.20	-0.02	0.81
Education				
Education Level	-0.47***	0.03	-0.35	0.63
Grade school only	-0.23†	0.13	-0.03	0.80
Employment and Income				
Parent works	-0.03	0.12	0.00	0.97
Income level	-0.14***	0.03	-0.10	0.87
Welfare and Poverty				
Welfare Poor	0.35	0.25	0.03	1.42
Non-Welfare Poor	0.09	0.13	0.01	1.09
Parent's Race/Ethnicity				
Black	-0.06	0.10	-0.01	0.94
Hispanic	0.02	0.12	0.00	1.02
Asian, Pacific Islander	0.06	0.21	0.01	1.06
American Indian	0.27	0.30	0.01	1.31
Immigration Status				
Recent (<15 years)	-0.41**	0.14	-0.06	0.66
Longer Term (15 years plus)	-0.07	0.15	-0.01	0.93
Intercept	1.13***	0.17		
Multiple R (Somer's D)	0.34***		N = 4,764	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-3. Predicting mother's high-risk health behavior from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.32***	0.09	-0.05	0.73
Age Group	0.01	0.02	0.01	1.01
Marital Status				
High-stress married	0.41***	0.06	0.10	1.51
Separated	0.70***	0.12	0.08	2.01
Divorced	0.51***	0.10	0.07	1.66
Widowed	0.51**	0.19	0.03	1.67
Never Married	0.36**	0.12	0.05	1.43
Education				
Education Level	-0.43***	0.03	-0.25	0.65
Grade school only	-0.32*	0.14	-0.04	0.72
Employment and Income				
Parent works	0.16**	0.06	0.04	1.18
Income level	-0.15***	0.03	-0.10	0.86
Welfare and Poverty				
Welfare Poor	0.49***	0.12	0.07	1.63
Non-Welfare Poor	0.10	0.11	0.01	1.10
Parent's Race/Ethnicity				
Black	-0.53***	0.09	-0.09	0.59
Hispanic	-0.42***	0.10	-0.07	0.66
Asian, Pacific Islander	-0.91***	0.28	-0.07	0.40
American Indian	0.20	0.29	0.01	1.23
Immigration Status				
Recent (<15 years)	-0.73***	0.15	-0.09	0.48
Longer Term (15 years plus)	-0.44**	0.14	-0.05	0.64
Intercept	0.66***	0.13		
Multiple R (Somer's D)	0.37**		N = 8,453	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 3-4. Predicting father's high-risk health behavior from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.10	0.13	0.01	1.10
Age Group	0.05*	0.02	0.05	1.06
Marital Status				
High-stress married	0.44***	0.06	0.13	1.55
Separated	0.33	0.31	0.02	1.40
Divorced	0.78***	0.19	0.07	2.18
Widowed	0.89**	0.34	0.05	2.44
Never Married	-0.07	0.20	-0.01	0.93
Education				
Education Level	-0.48***	0.03	-0.37	0.62
Grade school only	-0.22	0.14	-0.03	0.80
Employment and Income				
Parent works	0.01	0.12	0.00	1.01
Income level	-0.15***	0.03	-0.10	0.86
Welfare and Poverty				
Welfare Poor	0.35	0.25	0.03	1.42
Non-Welfare Poor	0.06	0.13	0.01	1.06
Parent's Race/Ethnicity				
Black	-0.04	0.10	-0.01	0.96
Hispanic	0.04	0.12	0.01	1.04
Asian, Pacific Islander	0.08	0.21	0.01	1.08
American Indian	0.30	0.31	0.02	1.36
Immigration Status				
Recent (<15 years)	-0.35*	0.15	-0.05	0.71
Longer Term (15 years plus)	-0.04	0.15	-0.01	0.96
Intercept	0.96***	0.17		
Multiple R (Somer's D)	0.36***		N = 4,764	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-5. Predicting mother's good health habits from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.29**	0.09	-0.05	0.74
Age Group	0.01	0.02	0.01	1.01
Marital Status				
Separated	0.02	0.12	0.00	1.02
Divorced	-0.07	0.10	-0.01	0.94
Widowed	0.11	0.19	0.01	1.11
Never Married	0.06	0.12	0.01	1.06
Education				
Education Level	0.38***	0.03	0.22	1.46
Grade school only	0.09	0.14	0.01	1.09
Employment and Income				
Parent works	-0.18***	0.05	-0.05	0.83
Income level	0.19***	0.03	0.12	1.21
Welfare and Poverty				
Welfare Poor	-0.32*	0.13	-0.04	0.73
Non-Welfare Poor	-0.16	0.11	-0.02	0.86
Parent's Race/Ethnicity				
Black	-0.59***	0.08	-0.10	0.55
Hispanic	-0.05	0.10	-0.01	0.95
Asian, Pacific Islander	-0.43*	0.19	-0.03	0.65
American Indian	-0.10	0.29	0.00	0.91
Immigration Status				
Recent (<15 years)	0.04	0.12	0.00	1.04
Longer Term (15 years plus)	0.21†	0.12	0.02	1.23
Intercept	-1.51***	0.12		
Multiple R (Somer's D)	0.37***		N = 8,510	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-6. Predicting father's good health habits from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.16	0.13	0.02	1.18
Age Group	0.02	0.02	0.01	1.02
Marital Status				
Separated	0.50	0.31	0.03	1.65
Divorced	0.21	0.19	0.02	1.23
Widowed	0.66*	0.33	0.03	1.94
Never Married	0.10	0.20	0.01	1.11
Education				
Education Level	0.41***	0.03	0.31	1.50
Grade school only	0.38**	0.14	0.05	1.47
Employment and Income				
Parent works	0.05	0.12	0.01	1.05
Income level	0.12***	0.03	0.08	1.12
Welfare and Poverty				
Welfare Poor	-0.24	0.26	-0.02	0.79
Non-Welfare Poor	0.06	0.13	0.01	1.06
Parent's Race/Ethnicity				
Black	-0.07	0.10	-0.01	0.93
Hispanic	0.00	0.11	0.00	1.00
Asian, Pacific Islander	-0.18	0.19	-0.02	0.84
American Indian	-0.12	0.31	-0.01	0.89
Immigration Status				
Recent (<15 years)	0.50***	0.13	0.08	1.65
Longer Term (15 years plus)	0.18	0.14	0.02	1.20
Intercept	-1.87***	0.16		
Multiple R (Somer's D)	0.30***		N = 4,847	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 3-7. Predicting mother's good health habits from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.28**	0.09	-0.05	0.75
Age Group	0.01	0.02	0.01	1.01
Marital Status				
High-stress married	-0.33***	0.06	-0.08	0.72
Separated	-0.11	0.12	-0.01	0.89
Divorced	-0.21*	0.10	-0.03	0.81
Widowed	-0.03	0.19	0.00	0.97
Never Married	-0.08	0.12	-0.01	0.93
Education				
Education Level	0.38***	0.03	0.22	1.46
Grade school only	0.08	0.14	0.01	1.09
Employment and Income				
Parent works	-0.16**	0.05	-0.04	0.85
Income level	0.19***	0.03	0.12	1.21
Welfare and Poverty				
Welfare Poor	-0.28*	0.13	-0.04	0.75
Non-Welfare Poor	-0.13	0.11	-0.02	0.88
Parent's Race/Ethnicity				
Black	-0.61***	0.08	-0.11	0.54
Hispanic	-0.08	0.10	-0.01	0.92
Asian, Pacific Islander	-0.48**	0.19	-0.04	0.62
American Indian	-0.08	0.29	0.00	0.93
Immigration Status				
Recent (<15 years)	0.00	0.12	0.00	1.00
Longer Term (15 years plus)	0.18	0.12	0.02	1.20
Intercept	-1.40***	0.12		
Multiple R (Somer's D)	0.37***		N = 8,510	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 3-8. Predicting father's good health habits from parent and family characteristics (including high-stress married)

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.15	0.13	0.02	1.16
Age Group	0.01	0.02	0.01	1.01
Marital Status				
High-stress married	-0.30***	0.06	-0.09	0.74
Separated	0.40	0.31	0.02	1.49
Divorced	0.10	0.19	0.01	1.11
Widowed	0.56†	0.33	0.03	1.76
Never Married	0.01	0.20	0.00	1.01
Education				
Education Level	0.42***	0.03	0.32	1.52
Grade school only	0.38**	0.14	0.05	1.46
Employment and Income				
Parent works	0.02	0.12	0.00	1.02
Income level	0.12***	0.03	0.08	1.13
Welfare and Poverty				
Welfare Poor	-0.23	0.26	-0.02	0.79
Non-Welfare Poor	0.08	0.13	0.01	1.08
Parent's Race/Ethnicity				
Black	-0.08	0.10	-0.01	0.92
Hispanic	-0.01	0.11	0.00	0.99
Asian, Pacific Islander	-0.19	0.19	-0.02	0.82
American Indian	-0.14	0.31	-0.01	0.87
Immigration Status				
Recent (<15 years)	0.46***	0.13	0.07	1.58
Longer Term (15 years plus)	0.16	0.14	0.02	1.18
Intercept	-1.76***	0.17		
Multiple R (Somer's D)	0.31***		N = 4,847	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

Analysis Table 4-1. Predicting mother's inadequate health care from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	-0.01	0.09	0.00	0.99
Age Group	0.00	0.02	0.00	1.00
Marital Status				
Separated	0.09	0.12	0.01	1.10
Divorced	0.08	0.09	0.01	1.09
Widowed	-0.38†	0.20	-0.03	0.69
Never Married	0.41***	0.11	0.06	1.51
Education				
Education Level	-0.19***	0.03	-0.11	0.83
Grade school only	0.47***	0.14	0.05	1.60
Employment and Income				
Parent works	-0.17**	0.05	-0.04	0.84
Income level	-0.26***	0.03	-0.17	0.77
Welfare and Poverty				
Welfare Poor	-0.24*	0.11	-0.03	0.78
Non-Welfare Poor	0.27*	0.11	0.04	1.31
Parent's Race/Ethnicity				
Black	0.02	0.08	0.00	1.02
Hispanic	0.22*	0.09	0.04	1.25
Asian, Pacific Islander	0.31†	0.19	0.02	1.36
American Indian	0.13	0.28	0.01	1.14
Immigration Status				
Recent (<15 years)	0.42***	0.12	0.05	1.52
Longer Term (15 years plus)	-0.06	0.12	-0.01	0.94
Intercept	0.94***	0.12		
Multiple R (Somer's D)	0.33***		N = 8,510	

† $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey

Analysis Table 4-2. Predicting father's inadequate health care from parent and family characteristics

Predictor Variables	Regression Coefficient	Standard Error	Standardized Coefficient	Odds Ratio
Age				
Young Parent (18-24)	0.19	0.15	0.03	1.21
Age Group	-0.06**	0.02	-0.05	0.94
Marital Status				
Separated	0.25	0.35	0.01	1.28
Divorced	-0.07	0.19	-0.01	0.94
Widowed	-0.10	0.35	-0.01	0.90
Never Married	0.45†	0.25	0.04	1.58
Education				
Education Level	-0.26***	0.03	-0.20	0.77
Grade school only	0.12	0.16	0.02	1.12
Employment and Income				
Parent works	0.30*	0.13	0.05	1.35
Income level	-0.15***	0.03	-0.11	0.86
Welfare and Poverty				
Welfare Poor	-0.20	0.25	-0.02	0.82
Non-Welfare Poor	0.39*	0.16	0.06	1.47
Parent's Race/Ethnicity				
Black	0.34**	0.11	0.06	1.40
Hispanic	0.47***	0.12	0.09	1.60
Asian, Pacific Islander	0.25	0.20	0.03	1.29
American Indian	0.11	0.32	0.01	1.11
Immigration Status				
Recent (<15 years)	0.38*	0.15	0.06	1.46
Longer Term (15 years plus)	-0.33*	0.15	-0.04	0.72
Intercept	1.49***	0.17		
Multiple R (Somer's D)	0.31***		N = 4,847	

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Source: Zill, N. (1998). Logistic regression analysis of data from National Center for Health Statistics, 1990 National Health Interview Survey.

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Table 1. Percent of parents in fair to poor health or with limiting condition and percent with both, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	Fair/poor health OR activity limitation		Fair/poor health AND activity limitation	
	Mothers	Fathers	Mothers	Fathers
All parents	12.6	12.8	3.0	3.2
Age of parent				
18-24	11.2	8.5	2.1	1.3
25-29	10.9	11.8	1.4	2.1
30-34	10.1	9.8	1.8	1.6
35-39	13.8	11.7	4.0	2.1
40-44	14.7	15.6	3.7	5.9
45-49	16.7	15.2	6.5	3.7
50-54	18.8	24.3	6.6	10.6
Race/Ethnicity				
White	11.3	12.1	2.4	2.9
Black	18.3	16.0	5.4	5.9
Hispanic	14.1	13.9	4.1	3.7
Asian, Pacific Islander	11.0	13.8	2.1	1.8
American Indian	10.7	17.5	0.8	6.2
Education Level				
Grade school only	23.4	22.3	7.5	10.8
Some high school	23.4	23.7	6.2	6.9
High school graduate	12.8	12.1	2.7	3.1
Some college	9.6	11.2	2.4	3.0
College graduate	5.3	8.0	1.0	0.4
Some graduate school	7.2	9.3	1.1	0.5
Family Income				
Less than $10,000	28.7	28.9	9.3	17.0
$10,000-$19,999	15.9	19.6	[illegible]	7.4
$20,000-$34,999	11.4	14.7	1.9	2.8
$35,000-$49,999	9.5	7.9	2.0	1.2
$50,000 and more	6.9	8.4	1.4	0.5
Unknown	12.2	14.3	3.6	4.3
Welfare/Poverty Status				
Welfare poor	27.7	35.1	8.1	21.2
Non-welfare poor	22.2	26.5	6.4	11.0
Non-poor	10.3	11.4	2.2	2.4
Marital Status				
Married	10.5	12.2	2.2	3.0
-- high stress	13.9	17.4	3.5	5.0
-- low stress	8.1	9.3	1.3	1.9
Separated	21.2	21.5	5.9	6.6
Divorced	17.8	21.5	5.0	8.6
Widowed	23.3	24.2	7.8	6.5
Never married	19.9	20.7	5.3	4.4

Table 1. Percent of parents in fair to poor health or with limiting condition and percent with both, by sex of parent and selected personal and family characteristics, United States, 1990 (*Continued*)

Characteristic	Fair/poor health OR activity limitation		Fair/poor health AND activity limitation	
	Mothers	Fathers	Mothers	Fathers
Employment				
Working	10.1	10.2	1.6	1.5
Keeping house	15.6	36.8	4.6	14.0
Going to school	12.1	37.8	1.3	17.1
Something else	41.9	61.8	22.4	39.4
Health Coverage				
Private only	9.5	9.8	1.9	1.4
Medicaid	27.8	40.7	9.2	22.2
Medicare	82.2	97.8	63.6	88.5
Champus	12.1	32.5	0.9	8.3
No coverage	16.9	17.8	3.6	5.6
Region				
Northeast	10.5	8.5	3.2	1.0
Midwest	12.7	12.0	3.2	3.0
South	13.8	14.1	3.1	4.3
West	12.3	15.4	2.5	3.7
MSA				
Central city	14.5	15.1	3.3	3.1
Suburbs	10.6	10.7	2.6	2.5
Non-metro	14.3	14.8	3.2	4.9
Immigrant Status				
In U.S. <15 years	11.5	10.8	2.6	1.4
In U.S. >15 years	14.1	15.3	3.5	3.0
Born in the U.S.	12.6	12.8	3.0	3.4

Table 2. Percent of parents with 4 or more bed-days due to illness, 6 or more doctor visits, and one or more episodes of hospital care in last year, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	4 or more days bedridden in last year due to ill health		6 or more doctor visits in last year		Received hospital care in last year	
	Mother	Father	Mother	Father	Mother	Father
All parents	25.2	16.1	24.3	11.3	6.1	5.4
Age of parent						
18-24	34.0	14.8	36.0	6.6	8.8	4.6
25-29	28.9	16.2	31.0	9.5	5.7	4.9
30-34	24.5	16.8	23.9	10.5	5.0	4.6
35-39	22.9	15.7	20.4	11.5	6.4	5.6
40-44	21.7	16.8	18.6	13.6	6.7	5.5
45-49	21.0	13.6	18.1	12.0	4.5	6.5
50-54	20.0	18.8	18.2	16.1	3.5	7.9
Race/Ethnicity						
White	24.9	16.8	24.9	11.9	5.8	5.5
Black	26.9	14.8	24.3	9.1	7.9	6.6
Hispanic	26.2	15.2	23.2	10.1	6.1	4.9
Asian, Pacific Islander	16.1	6.7	15.9	7.3	4.0	0.8
American Indian	28.3	12.8	20.9	7.3	4.0	1.0
Education Level						
Grade school only	23.8	14.6	21.1	12.1	6.5	7.4
Some high school	29.4	24.6	25.6	14.6	8.5	7.0
High school graduate	24.3	16.3	23.0	11.1	6.0	5.7
Some college	25.8	16.0	26.6	11.7	6.0	4.8
College graduate	23.9	13.0	22.5	10.3	4.8	3.3
Some graduate school	24.3	12.7	27.8	9.6	4.4	5.3
Family Income						
Less than $10,000	29.5	20.7	26.7	15.9	8.9	8.9
$10,000-$19,999	27.8	23.8	23.9	12.4	6.8	9.1
$20,000-$34,999	27.2	18.5	24.5	11.6	5.4	6.7
$35,000-$49,999	23.1	12.5	23.1	10.5	5.2	3.9
$50,000 and more	21.0	13.5	24.4	10.8	4.6	3.6
Unknown	24.6	13.0	24.2	10.5	7.7	3.5
Welfare/Poverty Status						
Welfare poor	32.8	29.0	32.1	23.2	10.6	8.6
Non-welfare poor	27.2	21.5	22.3	12.4	6.1	7.7
Non-poor	24.3	15.5	23.8	11.1	5.6	5.2

Table 2. Percent of parents with 4 or more bed-days due to illness, 6 or more doctor visits, and one or more episodes of hospital care in last year, by sex of parent and selected personal and family characteristics, United States, 1990 *(continued)*

Characteristic	4 or more days bedridden in last year due to ill health		6 or more doctor visits in last year		Received hospital care in last year	
	Mother	Father	Mother	Father	Mother	Father
Marital Status						
Married	24.2	15.9	24.3	11.4	5.4	5.2
-- high stress	30.5	21.0	27.6	15.6	6.7	6.9
-- low stress	19.8	13.1	22.0	9.0	4.4	4.3
Separated	29.8	14.0	23.0	9.6	9.4	6.2
Divorced	27.1	18.0	22.8	10.3	8.4	6.3
Widowed	36.9	30.7	22.8	15.0	7.5	12.0
Never married	27.5	17.9	27.2	10.0	7.6	8.8
Employment						
Working	24.1	14.8	21.7	10.0	5.4	4.7
Keeping house	26.7	26.7	28.4	20.2	6.7	9.4
Going to school	23.9	26.3	25.1	18.2	7.5	8.5
Something else	39.1	44.1	34.1	41.3	11.0	22.3
Health Coverage						
Private only	23.7	14.8	23.8	10.6	5.3	5.1
Medicaid	34.1	28.8	35.0	25.3	11.7	8.9
Medicare	64.8	66.4	68.9	58.0	33.5	39.6
Champus	21.6	26.1	23.6	17.3	6.5	8.3
No coverage	26.7	17.5	19.4	10.1	5.5	4.3
Region						
Northeast	23.2	14.2	25.9	11.1	5.1	4.6
Midwest	23.9	15.4	24.5	12.3	6.6	5.6
South	26.3	16.8	22.1	10.0	7.0	6.5
West	26.6	17.5	26.1	12.7	4.7	4.0
MSA						
Central city	25.9	15.6	23.5	11.3	5.9	4.9
Suburbs	25.0	15.8	25.1	11.3	5.8	5.0
Non-metro	24.7	17.4	23.5	11.5	6.9	6.7
Immigrant Status						
In U.S. <15 years	18.2	10.5	20.3	7.5	5.8	4.2
In U.S. >15 years	23.6	18.4	23.8	11.9	3.0	5.8
Born in the U.S.	25.7	16.4	24.6	11.6	6.2	5.4

Table 3. Percent of parents who reported experiencing a lot of stress in past two weeks or past year, and who sought professional help for emotional problems in last year, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	Experienced a lot of stress in past 2 weeks or past year		Sought professional help for emotional problems in last year	
	Mothers	Fathers	Mothers	Fathers
All parents	43.9	36.8	13.2	6.1
Age of parent				
18-24	44.1	29.8	7.7	4.0
25-29	42.5	37.0	11.2	4.6
30-34	42.4	40.3	12.6	6.1
35-39	47.0	35.7	17.8	5.9
40-44	44.3	40.9	14.3	7.2
45-49	41.5	29.3	13.1	6.4
50-54	42.2	32.5	8.7	9.7
Race/Ethnicity				
White	46.6	39.2	14.7	6.7
Black	40.5	31.8	8.9	5.7
Hispanic	33.3	25.6	9.5	3.1
Asian, Pacific Islander	25.3	27.4	5.1	1.7
American Indian	49.7	26.8	12.4	7.8
Education Level				
Grade school only	34.8	25.2	5.7	2.1
Some high school	45.4	30.3	10.2	5.5
High school graduate	43.5	35.0	12.8	5.0
Some college	45.1	41.0	14.7	7.5
College graduate	43.1	41.4	14.8	5.5
Some graduate school	46.0	40.3	17.3	9.9
Family Income				
Less than $10,000	48.5	39.4	12.6	5.8
$10,000-$19,999	47.0	36.3	13.2	5.5
$20,000-$34,999	44.2	35.8	13.3	5.8
$35,000-$49,999	44.1	35.8	13.2	6.3
$50,000 and more	44.2	41.6	15.8	7.3
Unknown	34.0	28.9	8.4	4.3
Welfare/Poverty Status				
Welfare poor	50.6	38.6	13.2	7.6
Non-welfare poor	45.5	36.8	11.6	4.5
Non-poor	43.1	36.7	13.3	6.2

Table 3. Percent of parents who reported experiencing a lot of stress in past two weeks or past year, and who sought professional help for emotional problems in last year, by sex of parent and selected personal and family characteristics, United States, 1990 *(continued)*

Characteristic	Experienced a lot of stress in past 2 weeks or past year		Sought professional help for emotional problems in last year	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	41.2	36.7	11.7	5.9
-- high stress	100.0	100.0	21.7	11.2
-- low stress	0.0	0.0	4.7	2.9
Separated	61.2	55.3	23.2	13.0
Divorced	57.1	54.9	26.0	16.0
Widowed	55.0	28.9	16.3	3.9
Never married	42.8	20.4	7.7	3.3
Employment				
Working	45.9	36.3	13.6	5.5
Keeping house	39.4	28.4	11.8	14.8
Going to school	49.4	50.3	14.0	3.5
Something else	49.2	46.1	22.6	18.2
Health Coverage				
Private only	42.9	36.3	13.7	5.8
Medicaid	49.1	40.0	13.8	9.3
Medicare	68.7	56.4	37.1	33.4
Champus	48.0	51.2	8.7	8.6
No coverage	44.1	35.8	10.7	5.5
Region				
Northeast	39.7	33.4	12.8	6.0
Midwest	47.7	38.9	13.7	7.0
South	43.3	36.0	11.3	5.3
West	43.6	38.6	15.9	6.5
MSA				
Central city	41.5	35.7	13.3	6.5
Suburbs	45.6	38.7	13.4	6.1
Non-metro	43.0	33.7	12.5	5.7
Immigrant Status				
In U.S. <15 years	28.1	21.7	6.2	1.5
In U.S. >15 years	30.7	27.2	7.9	2.8
Born in the U.S.	45.6	38.4	13.9	6.6

Table 4. Percent of parents who reported 6 or more negative feelings, and mean negative feelings scale score, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	6 or more negative feelings		Mean negative feelings scale score	
	Mothers	Fathers	Mothers	Fathers
All parents	8.1	3.7	1.72	1.20
Age of parent				
18-24	13.6	8.6	2.46	2.10
25-29	9.8	2.8	2.03	1.19
30-34	7.8	3.6	1.67	1.20
35-39	7.5	3.2	1.60	1.15
40-44	5.9	3.3	1.40	1.10
45-49	5.2	3.5	1.32	0.98
50-54	4.8	6.7	1.29	1.28
Race/Ethnicity				
White	6.8	3.8	1.57	1.19
Black	15.4	3.4	2.50	1.28
Hispanic	7.9	3.7	1.80	1.19
Asian, Pacific Islander	4.5	1.3	1.39	0.78
American Indian	15.0	7.8	2.30	2.12
Education Level				
Grade school only	12.3	6.5	1.99	1.48
Some high school	16.6	7.8	2.70	1.74
High school graduate	9.1	4.5	1.86	1.29
Some college	5.6	3.4	1.48	1.20
College graduate	2.6	1.3	1.03	0.90
Some graduate school	1.9	0.9	0.99	0.78
Family Income				
Less than $10,000	20.5	12.0	3.03	2.08
$10,000-$19,999	13.9	7.2	2.39	1.71
$20,000-$34,999	6.7	3.6	1.63	1.21
$35,000-$49,999	5.3	2.7	1.42	1.13
$50,000 and more	2.5	2.1	1.08	0.88
Unknown	8.4	3.3	2.07	1.45
Welfare/Poverty Status				
Welfare poor	24.9	12.0	3.42	2.32
Non-welfare poor	15.9	11.2	2.51	1.98
Non-poor	5.4	3.0	1.45	1.11

Table 4. Percent of parents who reported 6 or more symptoms of depression, and mean depression scale score, by sex of parent and selected personal and family characteristics, United States, 1991 (*Continued*)

Characteristic	6 or more negative feelings		Mean negative feelings scale score	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	5.8	3.4	1.46	1.15
Separated	19.8	9.8	2.99	2.28
Divorced	15.6	9.9	2.46	1.69
Widowed	8.3	9.1	2.29	1.77
Never married	16.4	5.9	2.67	2.06
Employment				
Working	6.4	3.0	1.53	1.11
Keeping house	9.9	11.2	1.92	2.45
Going to school	13.0	2.8	2.32	1.65
Something else	20.7	20.5	2.83	2.92
Health Coverage				
Private only	5.2	2.8		
Medicaid	21.5	9.2		
Medicare	31.2	19.0		
Champus	12.0	3.5		
No coverage	10.8	7.5		
Region				
Northeast	6.4	2.5		
Midwest	7.6	4.4		
South	9.0	3.7		
West	8.8	4.1		
MSA				
Central city	10.1	3.8		
Suburbs	7.0	3.4		
Non-metro	8.1	4.4		
Immigrant Status				
In U.S. <15 years	6.0	1.2	1.59	.085
In U.S. >15 years	8.0	4.4	1.71	1.20
Born in the U.S.	8.3	3.9	1.73	1.22

Table 5. Percent of parents who exhibited high-risk behavior pattern (current smoker or two or more other risky behaviors) and percent who were current smokers, by sex of parent and selected personal and family characteristics, United States, 1990

	HIGH RISK Pattern		Currently a smoker	
Characteristic	**Mothers**	**Fathers**	**Mothers**	**Fathers**
All parents	33.9	38.0	26.2	32.1
Age of parent				
18-24	36.3	47.8	30.4	44.1
25-29	38.1	39.1	31.5	33.0
30-34	34.2	37.9	27.2	31.1
35-39	31.1	36.1	22.8	30.1
40-44	30.5	38.3	21.9	33.2
45-49	33.7	36.3	23.6	31.3
50-54	37.6	34.4	25.7	25.6
Race/Ethnicity				
White	35.6	36.9	28.5	30.9
Black	33.8	43.4	25.4	38.4
Hispanic	27.3	44.0	15.8	36.1
Asian, Pacific Islander	10.6	27.9	5.1	26.6
American Indian	47.2	53.7	43.5	50.5
Education Level				
Grade school only	33.9	53.1	23.6	47.6
Some high school	53.7	59.5	47.0	54.0
High school graduate	38.4	45.2	30.6	38.4
Some college	28.5	34.5	20.8	28.6
College graduate	19.3	21.1	11.6	15.4
Some graduate school	14.2	15.8	7.9	11.9
Family Income				
Less than $10,000	49.9	60.9	41.9	54.8
$10,000-$19,999	41.9	51.9	34.7	44.6
$20,000-$34,999	34.3	41.0	25.9	35.6
$35,000-$49,999	28.7	33.6	21.1	27.0
$50,000 and more	23.4	27.1	17.1	22.2
Unknown	35.9	40.6	26.8	34.2
Welfare/Poverty Status				
Welfare poor	54.2	62.1	46.2	58.6
Non-welfare poor	42.0	53.9	33.9	48.0
Non-poor	31.2	36.5	23.6	30.6

Table 5. Percent of parents who exhibited high-risk behavior pattern (current smoker or two or more other risky behaviors) and percent who were current smokers, by sex of parent and selected personal and family characteristics, United States, 1990 (*Continued*)

Characteristic	HIGH RISK Pattern		Currently a smoker	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	30.8	37.2	23.2	31.2
-- high stress	36.7	41.7	29.9	35.4
-- low stress	26.7	34.4	18.8	28.6
Separated	49.7	50.3	41.5	47.1
Divorced	45.2	55.8	36.4	46.8
Widowed	42.3	63.9	32.9	62.4
Never married	40.9	43.1	34.2	40.1
Employment				
Working	33.6	37.3	25.3	31.3
Keeping house	33.9	52.0	27.3	51.2
Going to school	33.7	23.4	26.7	24.4
Something else	44.2	61.0	33.3	53.0
Health Coverage				
Private only	28.9	34.0	21.7	27.8
Medicaid	52.6	55.3	44.2	52.7
Medicare	48.4	66.9	24.2	52.5
Champus	36.0	55.1	27.2	54.7
No coverage	45.3	53.5	35.9	48.1
Region				
Northeast	32.3	34.7	25.1	28.6
Midwest	38.3	39.9	30.7	33.1
South	33.1	40.3	25.5	34.5
West	31.3	34.8	22.9	29.9
MSA				
Central city	34.0	40.6	25.9	35.0
Suburbs	32.9	36.0	25.8	30.3
Non-metro	35.8	39.4	27.6	32.7
Immigrant Status				
In U.S. <15 years	17.7	33.2	9.2	30.0
In U.S. >15 years	23.8	40.4	12.6	35.2
Born in the U.S.	35.6	38.2	28.2	32.1

Table 6. Percent of parents who were 20 percent or more above their desirable weight-for-height, who perceived themselves to be overweight, and who were sedentary, by sex of parent and selected personal and family characteristics, United States, 1991 and 1990

Characteristic	20% overweight		Perceived Overweight		Sedentary	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
All parents	24.8	31.5	35.8	18.9	26.1	18.3
Age of parent						
18-24	24.1	20.0	29.9	8.7	31.9	19.2
25-29	20.7	25.0	31.8	12.1	25.3	20.0
30-34	22.2	29.8	33.3	15.8	24.5	16.9
35-39	26.5	32.9	38.4	20.6	23.9	17.8
40-44	27.3	35.2	41.1	24.3	25.5	17.7
45-49	28.7	35.3	39.9	25.1	31.9	19.5
50-54	43.5	38.6	45.4	22.5	27.5	22.1
Race/Ethnicity						
White	22.2	31.9	35.8	20.0	23.3	16.5
Black	39.1	31.6	36.2	16.0	29.5	18.6
Hispanic	26.9	34.0	38.3	15.2	37.6	28.8
Asian, Pacific Islander	11.3	9.9	17.6	7.3	33.3	28.2
American Indian	32.8	42.5	39.7	32.4	20.9	18.0
Education Level						
Grade school only	36.8	29.8	34.7	12.9	48.1	29.7
Some high school	28.8	31.1	35.5	15.7	30.6	27.4
High school graduate	26.7	33.7	37.8	18.4	26.4	19.1
Some college	23.2	33.2	37.5	22.3	21.8	15.6
College graduate	15.5	30.2	29.9	18.6	22.6	14.4
Some graduate school	17.8	24.5	28.8	20.2	19.7	12.2
Family Income						
Less than $10,000	37.0	28.9	38.3	14.3	32.4	32.2
$10,000-$19,999	32.4	30.6	37.9	16.3	31.0	27.9
$20,000-$34,999	25.2	32.2	37.2	19.3	25.5	17.3
$35,000-$49,999	24.1	31.9	37.5	19.4	19.7	13.0
$50,000 and more	16.0	32.0	32.1	21.3	20.5	13.9
Unknown	21.7	29.9	32.1	16.0	35.2	25.7
Welfare/Poverty Status						
Welfare poor	36.0	36.7	37.8	15.1	32.3	40.2
Non-welfare poor	39.0	29.3	37.4	15.9	32.7	29.5
Non-poor	23.0	31.9	35.5	19.1	24.8	17.2

Table 6. Percent of parents who were 20 percent or more above their desirable weight-for-height, who perceived themselves to be overweight, and who were sedentary, by sex of parent and selected personal and family characteristics, United States, 1991 and 1990 (*Continued*)

	20% overweight		Perceived Overweight		Sedentary	
Characteristic	**Mothers**	**Fathers**	**Mothers**	**Fathers**	**Mothers**	**Fathers**
Marital Status						
Married	23.0	31.8	35.7	19.4	25.4	18.5
-- high stress	--	--	39.8	22.5	21.1	14.6
-- low stress	--	--	33.1	18.0	27.0	19.2
Separated	30.3	23.5	33.6	14.7	31.8	16.5
Divorced	26.9	30.7	36.8	17.3	24.2	12.6
Widowed	34.4	30.9	47.2	6.0	27.2	30.4
Never married	34.7	22.7	34.8	4.1	29.9	14.5
Employment						
Working	23.3	31.5	36.6	19.0	25.4	17.5
Keeping house	26.9	26.4	34.5	19.3	27.0	21.9
Going to school	25.4	22.2	34.0	11.9	24.7	29.8
Something else	31.6	36.3	35.6	17.6	33.6	35.3
Health Coverage						
Private only	22.0	32.0	35.6	19.9	23.6	16.4
Medicaid	35.0	38.3	37.5	15.8	33.2	37.5
Medicare	51.0	40.4	62.2	28.3	43.5	44.6
Champus	21.0	35.4	31.6	16.2	28.1	13.7
No coverage	28.0	26.8	36.2	13.9	32.4	25.4
Region						
Northeast	24.1	32.2	34.9	17.6	28.3	19.8
Midwest	24.4	31.0	37.1	20.1	21.7	15.6
South	28.0	33.0	35.4	19.9	26.2	19.3
West	20.6	29.4	35.7	16.8	29.0	18.9
MSA						
Central city	25.9	29.8	34.4	18.1	30.7	21.1
Suburbs	23.5	30.2	35.8	19.8	23.3	16.9
Non-metro	26.1	36.4	37.6	17.6	25.8	18.5
Immigrant Status						
In U.S. <15 years	17.2	19.3	22.2	8.9	46.5	34.1
In U.S. >15 years	23.3	26.9	36.6	11.2	38.1	26.2
Born in the U.S.	25.5	32.7	36.7	20.1	23.9	16.7

Table 7. Percent of parents who reported being heavy drinkers (4 or 5 or more glasses of beer, wine, or whiskey per day), and having driven after drinking too much in the past year, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	Heavy Drinker		Has driven after drinking too much in the past year	
	Mothers	Fathers	Mothers	Fathers
All parents	3.1	11.7	3.3	10.8
Age of parent				
18-24	4.1	16.3	3.4	13.3
25-29	4.4	17.5	4.3	12.3
30-34	4.3	11.5	4.0	12.6
35-39	2.4	10.8	3.1	11.1
40-44	1.2	9.3	2.9	9.6
45-49	1.4	8.1	1.1	6.2
50-54	0.0	10.9	1.3	9.2
Race/Ethnicity				
White	3.4	10.9	4.1	11.2
Black	1.9	12.8	1.5	8.4
Hispanic	2.8	18.9	1.7	11.2
Asian, Pacific Islander	1.2	3.8	0.3	6.2
American Indian	1.7	19.1	3.8	12.5
Education Level				
Grade school only	2.6	18.3	0.5	5.3
Some high school	6.3	20.1	3.7	11.8
High school graduate	3.4	15.2	3.7	12.9
Some college	2.3	8.1	3.8	10.0
College graduate	1.5	5.0	3.4	11.6
Some graduate school	1.0	4.3	1.1	6.8
Family Income				
Less than $10,000	6.5	16.7	2.8	9.4
$10,000-$19,999	3.7	18.5	2.8	11.5
$20,000-$34,999	3.3	12.9	4.0	11.4
$35,000-$49,999	2.0	10.9	3.4	12.9
$50,000 and more	1.7	7.3	3.7	10.9
Unknown	3.0	10.4	2.4	4.5
Welfare/Poverty Status				
Welfare poor	6.8	16.7	2.9	7.2
Non-welfare poor	4.2	15.4	2.2	8.8
Non-poor	2.6	11.3	3.5	11.0

Table 7. Percent of parents who reported being heavy drinkers (4 or 5 or more glasses of beer, wine, or whiskey per day), and having driven after drinking too much in the past year, by sex of parent and selected personal and family characteristics, United States, 1990 (*Continued*)

Characteristic	Heavy Drinker		Has driven after drinking too much in the past year	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	2.5	11.3	2.9	10.9
-- high stress	3.4	12.9	3.8	13.9
-- low stress	2.0	10.6	2.3	9.4
Separated	5.7	17.3	3.6	14.4
Divorced	4.8	17.3	6.7	10.7
Widowed	4.6	29.6	6.3	6.8
Never married	4.4	16.1	3.8	7.5
Employment				
Working	3.0	11.5	3.9	11.1
Keeping house	3.2	23.7	2.5	2.3
Going to school	3.1	3.4	2.9	3.9
Something else	4.1	17.8	2.4	9.7
Health Coverage				
Private only	2.3	10.2	3.3	11.1
Medicaid	6.4	15.6	2.6	7.1
Medicare	0.0	19.2	5.9	5.4
Champus	2.2	6.6	0.3	8.6
No coverage	4.7	19.4	4.7	10.5
Region				
Northeast	3.3	10.9	2.7	9.7
Midwest	4.8	13.2	4.9	16.1
South	2.0	12.8	2.4	7.8
West	2.5	8.7	3.6	10.6
MSA				
Central city	3.6	12.7	2.5	10.0
Suburbs	3.1	10.4	3.8	10.2
Non-metro	2.2	13.4	3.5	13.0
Immigrant Status				
In U.S. <15 years	0.6	13.0	0.4	6.8
In U.S. >15 years	1.5	13.9	0.8	9.2
Born in the U.S.	3.3	11.5	3.7	11.3

Table 8. Percent of parents who exhibited healthy habits profile (3 or more of 5 good habits) and who reported always using a seatbelt when riding in an automobile, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	HEALTHY HABITS Profile		Always uses a seatbelt	
	Mothers	Fathers	Mothers	Fathers
All parents	45.7	45.1	69.9	62.2
Age of parent				
18-24	29.4	38.3	55.4	45.1
25-29	41.2	41.1	65.3	55.9
30-34	47.4	43.7	72.2	61.2
35-39	50.0	45.9	73.8	64.5
40-44	49.7	46.0	75.4	66.6
45-49	52.0	52.6	70.4	69.5
50-54	50.2	47.3	73.2	63.0
Race/Ethnicity				
White	49.9	46.0	72.8	63.1
Black	28.2	38.1	57.1	57.7
Hispanic	40.2	43.1	64.2	57.2
Asian, Pacific Islander	46.0	54.4	85.7	73.9
American Indian	39.7	34.2	62.7	46.9
Education Level				
Grade school only	30.3	38.3	49.1	50.0
Some high school	26.3	26.4	50.4	43.5
High school graduate	40.0	37.6	65.5	54.2
Some college	52.5	46.6	79.0	69.1
College graduate	64.3	57.2	85.4	75.5
Some graduate school	71.8	70.7	89.9	82.2
Family Income				
Less than $10,000	25.3	27.3	46.7	41.8
$10,000-$19,999	33.3	36.1	55.3	48.7
$20,000-$34,999	43.8	39.6	69.2	54.1
$35,000-$49,999	52.1	47.0	78.0	67.5
$50,000 and more	63.0	56.0	84.6	76.3
Unknown	41.8	46.1	71.4	61.4
Welfare/Poverty Status				
Welfare poor	23.6	28.4	42.7	45.4
Non-welfare poor	27.9	35.4	50.2	43.7
Non-poor	49.5	46.0	74.4	63.8

Table 8. Percent of parents who exhibited healthy habits profile (3 or more of 5 good habits) and who reported always using a seatbelt when riding in an automobile, by sex of parent and selected personal and family characteristics, United States, 1990*(Continued)*

Characteristic	HEALTHY HABITS Profile		Always uses a seatbelt	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	49.0	45.1	73.1	62.5
-- high stress	44.9	41.8	71.9	63.2
-- low stress	52.8	47.5	74.7	63.0
Separated	34.5	49.2	61.4	61.1
Divorced	39.3	45.8	63.5	67.8
Widowed	41.1	50.9	67.9	61.8
Never married	28.1	38.2	52.2	45.4
Employment				
Working	46.3	45.6	72.2	63.0
Keeping house	45.6	34.4	66.8	51.9
Going to school	42.5	54.3	68.3	56.6
Something else	32.2	27.6	56.7	46.3
Health Coverage				
Private only	51.1	47.4	75.9	64.9
Medicaid	23.8	27.9	45.3	40.5
Medicare	23.1	28.3	65.7	63.4
Champus	58.2	40.4	90.0	71.3
No coverage	32.2	36.7	54.1	49.9
Region				
Northeast	45.5	43.9	63.8	58.1
Midwest	45.0	43.1	69.3	59.2
South	43.5	45.0	71.5	64.2
West	50.3	48.7	73.2	66.4
MSA				
Central city	39.3	44.6	63.8	61.5
Suburbs	50.7	45.6	75.8	65.9
Non-metro	43.2	44.4	65.4	54.9
Immigrant Status				
In U.S. <15 years	40.3	53.3	65.4	63.5
In U.S. >15 years	48.7	46.5	68.5	61.5
Born in the U.S.	45.9	44.3	70.3	62.2

Table 9. Percent of parents who reported eating breakfast daily and rarely or never eating between-meal snacks, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	Eats breakfast daily		Doesn't snack	
	Mothers	Fathers	Mothers	Fathers
All parents	49.5	46.7	20.5	23.9
Age of parent				
18-24	40.8	41.1	17.5	22.1
25-29	47.1	44.6	19.9	23.3
30-34	48.7	46.7	21.3	20.5
35-39	50.3	46.9	20.7	23.8
40-44	52.2	43.8	21.1	25.4
45-49	60.1	53.1	21.1	27.1
50-54	57.9	57.0	21.4	31.2
Race/Ethnicity				
White	51.9	46.7	19.7	22.6
Black	38.7	40.4	18.4	19.9
Hispanic	47.9	50.3	25.6	32.6
Asian, Pacific Islander	52.7	54.3	25.8	37.4
American Indian	31.8	43.4	38.1	28.5
Education Level				
Grade school only	48.6	52.5	21.8	31.2
Some high school	35.2	37.0	20.4	21.9
High school graduate	44.0	42.9	20.7	22.9
Some college	52.5	44.1	21.2	23.9
College graduate	66.4	49.3	18.2	25.4
Some graduate school	70.3	65.2	20.0	23.5
Family Income				
Less than $10,000	36.3	40.8	21.5	21.9
$10,000-$19,999	42.3	44.4	20.8	26.6
$20,000-$34,999	48.3	43.2	20.5	22.9
$35,000-$49,999	52.7	48.2	19.2	23.6
$50,000 and more	59.6	48.3	21.8	24.7
Unknown	49.3	53.0	18.8	22.0
Welfare/Poverty Status				
Welfare poor	39.3	50.6	18.0	19.3
Non-welfare poor	36.8	46.6	23.1	28.1
Non-poor	51.7	46.6	20.4	23.6

Table 9. Percent of parents who reported eating breakfast daily and rarely or never eating between-meal snacks, by sex of parent and selected personal and family characteristics, United States, 1990 *(Continued)*

Characteristic	Eats breakfast daily		Doesn't snack	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	52.1	46.6	20.1	23.9
-- high stress	47.2	42.0	21.1	25.9
-- low stress	55.8	49.2	19.7	22.7
Separated	41.9	49.4	25.8	19.9
Divorced	42.5	48.8	23.0	26.3
Widowed	42.4	51.0	23.6	24.4
Never married	37.3	45.7	17.3	19.7
Employment				
Working	47.7	46.6	21.5	23.7
Keeping house	53.3	44.1	18.8	17.1
Going to school	46.5	68.8	18.3	35.9
Something else	44.1	39.6	22.1	25.4
Health Coverage				
Private only	52.6	47.2	20.6	23.4
Medicaid	38.7	46.4	17.2	19.0
Medicare	63.9	41.6	11.7	37.8
Champus	51.2	40.1	21.8	29.0
No coverage	41.2	45.3	21.8	25.8
Region				
Northeast	55.0	50.2	18.8	19.7
Midwest	49.0	45.9	19.5	21.1
South	44.8	45.2	20.5	25.5
West	52.9	47.0	23.1	28.2
MSA				
Central city	47.1	45.7	20.4	26.4
Suburbs	51.6	47.0	20.9	23.9
Non-metro	48.0	47.1	19.6	20.9
Immigrant Status				
In U.S. <15 years	55.2	63.7	26.6	36.6
In U.S. >15 years	55.0	50.0	28.7	37.0
Born in the U.S.	48.7	45.2	19.6	22.1

Table 10. Percent of parents who reported getting 7-8 hours of sleep each night and regular exercise for the past year or more, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	7-8 hours of sleep per night		Regular exercise for a year or more	
	Mothers	Fathers	Mothers	Fathers
All parents	67.4	65.8	27.6	35.9
Age of parent				
18-24	60.4	58.1	21.0	42.9
25-29	63.7	63.3	28.1	37.0
30-34	68.3	68.1	27.5	35.6
35-39	70.2	65.0	29.8	36.5
40-44	70.2	66.5	28.6	34.8
45-49	70.7	68.4	28.2	33.5
50-54	64.5	66.1	27.0	32.3
Race/Ethnicity				
White	69.7	67.6	30.6	36.9
Black	57.4	56.7	18.7	36.7
Hispanic	66.6	62.8	20.3	28.2
Asian, Pacific Islander	60.1	61.7	19.3	37.7
American Indian	60.6	65.7	31.9	22.2
Education Level				
Grade school only	61.3	63.1	10.3	15.4
Some high school	61.6	57.8	16.5	21.6
High school graduate	66.1	64.2	23.9	31.4
Some college	68.5	64.9	32.6	38.7
College graduate	73.7	70.1	38.0	49.5
Some graduate school	76.0	75.1	47.9	51.8
Family Income				
Less than $10,000	58.3	58.7	17.4	27.7
$10,000-$19,999	63.5	63.6	19.8	24.7
$20,000-$34,999	65.8	64.1	26.6	33.2
$35,000-$49,999	69.4	65.0	32.9	38.6
$50,000 and more	73.6	69.4	38.8	47.3
Unknown	69.2	68.3	20.1	26.5
Welfare/Poverty Status				
Welfare poor	55.7	46.6	18.5	22.5
Non-welfare poor	63.1	63.7	16.4	25.4
Non-poor	68.9	66.2	29.5	36.9

Table 10. Percent of parents who reported getting 7-8 hours of sleep each night and regular exercise for the past year or more, by sex of parent and selected personal and family characteristics, United States, 1990 *(Continued)*

Characteristic	7-8 hours of sleep per night		Regular exercise for a year or more	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	70.0	66.4	28.7	35.7
-- high stress	64.9	59.6	29.1	35.4
-- low stress	73.9	70.5	29.3	36.6
Separated	58.0	62.3	19.4	36.5
Divorced	59.3	53.2	30.0	39.7
Widowed	60.8	50.5	23.3	41.7
Never married	58.3	57.8	20.6	40.5
Employment				
Working	67.7	66.4	27.6	36.4
Keeping house	67.9	58.0	27.9	37.6
Going to school	63.7	53.1	30.9	31.1
Something else	55.7	57.8	17.6	18.3
Health Coverage				
Private only	69.6	67.2	30.7	38.4
Medicaid	55.8	49.5	17.0	20.5
Medicare	40.0	36.0	6.6	23.3
Champus	67.1	58.0	32.2	42.5
No coverage	64.8	63.1	19.2	24.7
Region				
Northeast	68.8	66.3	25.6	35.5
Midwest	65.9	65.9	29.0	36.6
South	67.5	65.5	25.6	33.9
West	67.9	65.5	31.0	38.8
MSA				
Central city	63.7	62.7	24.8	36.7
Suburbs	68.9	64.8	29.9	35.9
Non-metro	69.3	71.2	26.3	35.1
Immigrant Status				
In U.S. <15 years	63.4	63.9	14.3	24.9
In U.S. >15 years	65.6	62.1	21.7	32.9
Born in the U.S.	67.8	66.1	28.9	37.0

Table 11. Percent of parents with one or more of three indicators of inadequate medical care, and with no regular source of care, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	With one or more indicators of inadequate medical care		With no regular source of care	
	Mothers	Fathers	Mothers	Fathers
All parents	41.5	61.4	16.0	31.9
Age of parent				
18-24	52.7	78.8	19.4	54.4
25-29	47.5	71.2	18.8	40.4
30-34	39.7	61.3	17.0	32.2
35-39	37.6	57.9	13.8	29.5
40-44	35.9	56.7	12.1	25.9
45-49	37.8	57.1	16.2	27.1
50-54	47.9	55.3	17.0	22.9
Race/Ethnicity				
White	37.7	57.9	14.4	28.6
Black	48.3	72.8	14.9	39.8
Hispanic	56.1	76.7	27.0	48.0
Asian, Pacific Islander	47.0	63.9	21.3	41.2
American Indian	47.7	68.2	16.1	29.4
Education Level				
Grade school only	71.1	80.4	31.9	50.8
Some high school	57.8	79.5	21.5	47.0
High school graduate	43.0	65.8	14.3	31.7
Some college	34.1	57.6	14.2	30.6
College graduate	29.1	48.7	13.5	23.9
Some graduate school	28.0	44.3	15.9	22.4
Family Income				
Less than $10,000	63.2	80.6	24.4	57.9
$10,000-$19,999	56.6	76.4	23.2	42.3
$20,000-$34,999	42.8	65.1	15.1	33.2
$35,000-$49,999	31.5	57.5	12.4	28.5
$50,000 and more	27.1	49.3	10.9	24.3
Unknown	42.3	63.6	16.0	31.0
Welfare/Poverty Status				
Welfare poor	56.1	69.5	19.6	31.4
Non-welfare poor	66.5	82.5	27.7	54.7
Non-poor	37.7	59.7	14.5	30.3

Table 11. Percent of parents with one or more of three indicators of inadequate medical care, and with no regular source of care, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	With one or more indicators of inadequate medical care		With no regular source of care	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	38.7	60.7	14.9	31.5
-- high stress	37.4	59.3	14.5	29.5
-- low stress	38.6	61.0	14.3	31.6
Separated	51.2	73.3	20.2	41.5
Divorced	46.3	61.9	19.5	27.8
Widowed	36.9	68.7	14.0	30.2
Never married	59.0	83.4	21.4	51.4
Employment				
Working	38.0	61.1	14.3	31.9
Keeping house	46.6	56.4	18.3	27.0
Going to school	47.4	70.1	23.4	28.6
Something else	51.9	68.0	18.3	34.7
Health Coverage				
Private only	34.7	57.0	13.0	27.7
Medicaid	56.0	72.5	19.3	35.2
Medicare	29.9	64.1	1.6	14.2
Champus	35.9	59.7	12.9	29.9
No coverage	65.6	83.4	29.0	55.4
Region				
Northeast	36.4	54.1	15.0	29.1
Midwest	37.1	57.3	11.6	25.9
South	46.4	68.4	18.1	37.0
West	43.2	61.2	18.7	33.3
MSA				
Central city	45.9	65.5	19.1	37.9
Suburbs	37.8	57.5	15.1	29.8
Non-metro	43.8	65.4	13.9	29.9
Immigrant Status				
In U.S. <15 years	61.5	76.1	34.7	52.7
In U.S. >15 years	44.9	60.2	17.9	41.6
Born in the U.S.	39.9	60.3	14.6	29.7

Table 12. Percent of parents with no doctor visits in two years or more, and no dental visits in last year, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	No doctor visits in 2 years		No dental visits in last year	
	Mothers	Fathers	Mothers	Fathers
All parents	7.1	20.6	29.1	39.3
Age of parent				
18-24	3.6	25.8	42.6	56.0
25-29	5.3	22.7	34.9	47.1
30-34	6.2	19.6	26.2	39.3
35-39	8.7	21.5	25.3	34.4
40-44	9.1	20.4	24.2	34.5
45-49	8.0	17.5	25.8	38.8
50-54	14.3	16.3	31.8	39.2
Race/Ethnicity				
White	6.6	19.6	25.7	36.1
Black	6.9	17.9	37.3	51.6
Hispanic	10.3	28.0	39.6	51.9
Asian, Pacific Islander	6.1	30.6	30.3	41.5
American Indian	15.8	24.9	41.6	42.8
Education Level				
Grade school only	11.5	29.7	59.0	61.6
Some high school	9.2	22.0	45.6	59.3
High school graduate	8.1	22.5	30.7	43.9
Some college	5.8	18.8	22.7	33.7
College graduate	3.9	19.2	16.5	26.4
Some graduate school	3.9	14.2	13.4	22.2
Family Income				
Less than $10,000	10.2	29.8	51.0	59.2
$10,000-$19,999	9.5	22.5	42.8	56.6
$20,000-$34,999	6.9	20.8	30.3	44.0
$35,000-$49,999	6.1	21.1	19.6	31.9
$50,000 and more	4.9	17.5	15.0	26.9
Unknown	7.2	20.7	30.8	45.3
Welfare/Poverty Status				
Welfare poor	6.9	22.7	44.3	58.4
Non-welfare poor	12.4	30.1	54.4	62.3
Non-poor	6.6	19.9	25.2	37.6

Table 12. Percent of parents with no doctor visits in two years or more, and no dental visits in last year, by sex of parent and selected personal and family characteristics, United States, 1990

Characteristic	No doctor visits in 2 years		No dental visits in last year	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	6.6	20.3	26.4	38.7
-- high stress	5.6	16.5	26.3	38.1
-- low stress	7.2	22.2	25.8	38.8
Separated	7.5	26.7	39.6	38.7
Divorced	8.6	19.8	32.8	39.7
Widowed	9.2	25.6	25.2	52.7
Never married	9.4	32.3	45.5	59.6
Employment				
Working	7.5	20.9	25.6	38.7
Keeping house	6.3	14.6	34.6	42.8
Going to school	4.9	24.5	31.9	45.2
Something else	13.7	14.5	39.2	53.0
Health Coverage				
Private only	6.2	19.1	22.7	34.6
Medicaid	6.6	21.1	44.4	59.4
Medicare	0.0	0.0	30.4	61.1
Champus	4.6	11.3	24.9	39.3
No coverage	12.3	31.2	50.6	61.1
Region				
Northeast	6.7	19.4	23.4	32.2
Midwest	6.6	22.0	25.8	34.3
South	7.5	20.8	34.4	47.0
West	7.4	19.8	29.2	38.9
MSA				
Central city	8.3	21.8	31.7	43.5
Suburbs	6.1	18.8	25.9	34.9
Non-metro	7.6	23.4	32.7	44.3
Immigrant Status				
In U.S. <15 years	10.6	27.8	45.1	48.4
In U.S. >15 years	10.4	22.3	28.3	37.6
Born in the U.S.	6.7	20.0	28.0	38.7

Table 13. Percent of parents who had a routine medical check-up within the last year and within the last two years, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Check-up within the last year		Check-up within the last two years	
	Mothers	Fathers	Mothers	Fathers
All parents	53.5	35.0	74.1	54.5
Age of parent				
18-24	62.2	26.1	80.8	49.1
25-29	56.1	29.5	76.7	50.4
30-34	53.0	31.8	74.3	51.1
35-39	50.0	38.2	71.1	56.2
40-44	47.9	38.0	69.9	57.0
45-49	59.3	36.4	76.9	56.9
50-54	54.0	43.5	71.5	62.5
Race/Ethnicity				
White	52.7	34.6	73.2	54.3
Black	60.7	43.5	80.2	61.6
Hispanic	51.9	31.2	74.9	49.6
Asian, Pacific Islander	43.8	35.8	63.1	54.4
American Indian	50.4	24.1	68.7	45.8
Education Level				
Grade school only	41.7	26.8	63.3	43.6
Some high school	50.7	32.3	71.3	49.1
High school graduate	52.4	34.7	72.9	54.5
Some college	54.8	35.8	77.2	55.8
College graduate	58.5	35.4	77.0	55.8
Some graduate school	60.1	39.1	78.0	58.7
Family Income				
Less than $10,000	54.8	34.1	71.5	50.4
$10,000-$19,999	52.3	30.0	73.6	46.6
$20,000-$34,999	51.5	31.9	73.7	52.3
$35,000-$49,999	53.7	37.7	74.8	57.5
$50,000 and more	58.1	38.2	77.4	57.3
Unknown	49.6	34.0	70.6	56.0
Welfare/Poverty Status				
Welfare poor	62.4	47.9	76.6	57.9
Non-welfare poor	46.7	29.6	67.5	49.0
Non-poor	54.1	35.3	75.1	55.0

Table 13. Percent of parents who had a routine medical check-up within the last year and within the last two years, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Check-up within the last year		Check-up within the last two years	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	53.2	34.9	74.5	54.5
Separated	52.2	35.1	71.5	61.7
Divorced	50.9	46.3	69.5	48.7
Widowed	57.2	29.6	65.7	53.8
Never married	58.4	35.2	77.9	58.5
Employment				
Working	53.9	34.4	74.6	54.0
Keeping house	52.1	48.1	72.9	62.2
Going to school	55.5	33.3	77.4	52.7
Something else	63.0	49.7	75.2	66.0
Health Coverage				
Private only	54.8	35.9	76.0	55.8
Medicaid	60.0	44.2	77.0	63.7
Medicare	61.2	66.0	79.0	70.4
Champus	59.1	43.3	80.2	64.5
No coverage	40.8	25.7	61.4	43.2
Region				
Northeast	54.5	40.6	75.5	62.7
Midwest	55.6	32.3	74.5	51.8
South	53.5	35.6	73.7	54.2
West	50.3	32.2	72.8	50.8
MSA				
Central city	54.5	34.7	76.1	54.4
Suburbs	52.7	36.1	73.5	55.5
Non-metro	53.7	32.9	72.7	52.1
Immigrant Status				
In U.S. <15 years	49.5	31.2	70.7	49.4
In U.S. >15 years	53.7	32.5	77.8	52.4
Born in the U.S.	53.8	35.4	74.1	55.0

Table 14. Percent of parents who were asked about diet and eating habits, and smoking cigarettes or other use of tobacco, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Doctor asked about diet and eating habits		Doctor asked about smoking/use of tobacco products	
	Mothers	Fathers	Mothers	Fathers
All parents	37.4	34.1	51.6	56.8
Age of parent				
18-24	39.3	19.8	55.3	49.1
25-29	36.7	27.5	54.0	57.7
30-34	36.7	30.3	52.2	57.4
35-39	36.7	37.6	51.5	57.9
40-44	37.7	37.1	51.7	57.3
45-49	39.0	40.7	40.3	54.9
50-54	40.2	39.8	45.7	57.0
Race/Ethnicity				
White	35.1	34.3	50.7	57.8
Black	41.4	30.0	56.0	48.1
Hispanic	47.6	37.8	55.4	61.4
Asian, Pacific Islander	28.2	35.3	32.2	45.0
American Indian	44.7	20.6	60.2	50.6
Education Level				
Grade school only	44.5	29.5	46.1	50.7
Some high school	35.2	22.0	57.5	52.3
High school graduate	35.7	30.1	52.2	55.4
Some college	37.1	35.9	51.8	60.7
College graduate	39.1	38.7	49.4	56.8
Some graduate school	43.4	47.5	44.9	58.9
Family Income				
Less than $10,000	39.1	24.7	59.2	49.4
$10,000-$19,999	39.9	26.1	54.4	52.9
$20,000-$34,999	36.3	27.3	51.5	56.3
$35,000-$49,999	38.1	35.1	52.5	56.5
$50,000 and more	37.1	43.6	51.4	64.8
Unknown	34.5	34.7	42.4	44.9
Welfare/Poverty Status				
Welfare poor	40.2	36.4	61.7	56.3
Non-welfare poor	42.2	23.9	54.1	50.6
Non-poor	36.5	34.9	50.8	57.7

Table 14. Percent of parents who were asked about diet and eating habits, and smoking cigarettes or other use of tobacco, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Doctor asked about diet and eating habits		Doctor asked about smoking/use of tobacco products	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	36.6	34.2	50.0	56.8
Separated	41.1	41.1	57.1	54.7
Divorced	39.6	33.4	56.9	59.5
Widowed	48.2	39.5	61.4	60.5
Never married	38.5	24.5	56.6	52.8
Employment				
Working	36.7	34.3	52.7	57.1
Keeping house	38.2	40.7	49.3	59.6
Going to school	35.9	24.5	55.6	52.6
Something else	45.3	33.2	52.5	48.8
Health Coverage				
Private only	36.7	35.3	49.9	57.8
Medicaid	41.6	38.6	59.0	53.6
Medicare	34.8	39.0	58.5	50.1
Champus	39.1	42.0	64.2	75.5
No coverage	37.0	25.0	51.8	48.5
Region				
Northeast	37.4	37.3	50.4	54.5
Midwest	34.0	30.2	51.4	55.7
South	37.2	32.7	50.4	55.4
West	41.4	37.7	54.7	61.8
MSA				
Central city	41.7	35.9	54.8	58.0
Suburbs	37.8	36.9	53.1	59.5
Non-metro	31.2	25.8	44.3	49.0
Immigrant Status				
In U.S. <15 years	45.7	32.9	48.0	47.9
In U.S. >15 years	42.5	37.5	50.1	58.1
Born in the U.S.	36.4	34.0	51.9	57.3

Table 15. Percent of parents who were asked how much and how often they drank alcohol, and whether they used marijuana, cocaine, or other drugs, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Doctor asked about use of alcohol		Doctor asked about use of drugs	
	Mothers	Fathers	Mothers	Fathers
All parents	38.6	44.2	25.0	30.6
Age of parent				
18-24	45.6	32.5	38.8	35.7
25-29	41.2	41.9	32.0	38.7
30-34	38.7	41.8	25.5	32.9
35-39	37.0	44.6	22.7	28.9
40-44	38.1	47.4	18.4	27.6
45-49	28.8	48.9	14.8	27.6
50-54	34.6	46.4	9.5	20.3
Race/Ethnicity				
White	36.4	44.2	21.2	29.3
Black	43.9	36.8	35.2	33.5
Hispanic	47.5	53.1	37.2	40.7
Asian, Pacific Islander	25.7	40.3	20.6	24.0
American Indian	48.6	41.8	23.5	35.9
Education Level				
Grade school only	36.3	43.6	23.7	23.9
Some high school	42.5	32.6	32.2	31.6
High school graduate	37.3	40.7	24.5	30.9
Some college	39.0	46.8	25.8	33.4
College graduate	39.4	49.9	21.7	28.9
Some graduate school	38.0	51.3	19.9	28.6
Family Income				
Less than $10,000	46.1	36.3	36.9	30.7
$10,000-$19,999	40.4	42.6	30.0	34.1
$20,000-$34,999	35.9	41.6	22.8	31.4
$35,000-$49,999	40.7	43.0	25.7	27.5
$50,000 and more	39.4	52.6	20.4	32.2
Unknown	31.6	36.2	21.5	27.7
Welfare/Poverty Status				
Welfare poor	48.1	37.8	40.7	35.7
Non-welfare poor	42.4	42.7	31.8	33.6
Non-poor	37.3	44.7	22.5	30.3

Table 15. Percent of parents who were asked how much and how often they drank alcohol, and whether they used marijuana, cocaine, or other drugs, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Doctor asked about use of alcohol		Doctor asked about use of drugs	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	36.9	44.0	22.7	30.1
Separated	41.2	43.1	32.0	36.2
Divorced	42.5	47.1	25.0	34.1
Widowed	50.6	54.5	36.3	45.6
Never married	46.4	44.8	41.1	39.4
Employment				
Working	38.4	44.4	23.9	30.4
Keeping house	38.2	48.5	25.9	38.0
Going to school	40.8	40.9	30.5	38.5
Something else	46.1	39.8	33.1	31.4
Health Coverage				
Private only	36.4	44.4	21.3	30.0
Medicaid	48.1	37.8	41.6	32.3
Medicare	49.9	52.3	21.2	33.3
Champus	50.8	66.3	33.9	46.0
No coverage	39.4	40.4	28.8	31.6
Region				
Northeast	36.6	41.2	23.8	26.0
Midwest	36.4	42.6	22.5	29.0
South	38.4	43.1	25.4	32.4
West	42.9	50.1	29.1	33.9
MSA				
Central city	43.4	45.6	30.4	32.4
Suburbs	39.0	46.8	24.1	31.7
Non-metro	31.7	36.5	20.3	25.9
Immigrant Status				
In U.S. <15 years	39.3	43.4	32.2	29.3
In U.S. >15 years	40.0	46.3	24.5	28.7
Born in the U.S.	38.4	44.1	24.5	30.8

Table 16. Percent of parents who were asked about their use of contraceptives, and sexually transmitted diseases, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Doctor asked about use of contraceptives		Doctor asked about sexually transmitted diseases	
	Mothers	Fathers	Mothers	Fathers
All parents	37.5	11.2	21.6	20.7
Age of parent				
18-24	58.9	20.3	37.7	21.2
25-29	50.8	14.2	27.1	25.8
30-34	41.6	10.3	22.1	21.2
35-39	32.1	11.1	19.5	20.4
40-44	22.0	9.5	15.1	19.1
45-49	13.8	8.6	10.6	20.4
50-54	--*	--*	5.5	13.1
Race/Ethnicity				
White	34.4	9.6	18.2	19.5
Black	44.3	20.6	31.3	25.8
Hispanic	48.9	15.3	32.9	17.8
Asian, Pacific Islander	30.6	9.3	11.6	28.9
American Indian	44.0	16.5	32.6	20.3
Education Level				
Grade school only	37.3	11.9	19.7	18.9
Some high school	38.3	13.7	27.9	16.5
High school graduate	36.3	12.0	21.6	20.4
Some college	37.7	11.6	21.7	23.3
College graduate	42.0	8.2	18.8	20.1
Some graduate school	35.0	9.6	16.5	21.6
Family Income				
Less than $10,000	44.0	16.4	33.3	21.9
$10,000-$19,999	41.6	16.8	26.9	23.2
$20,000-$34,999	36.0	11.0	19.0	20.0
$35,000-$49,999	37.8	8.8	20.7	19.1
$50,000 and more	34.8	10.4	17.9	23.3
Unknown	34.9	10.9	19.1	16.4
Welfare/Poverty Status				
Welfare poor	49.0	16.4	36.5	20.0
Non-welfare poor	39.2	18.9	28.6	22.0
Non-poor	35.9	10.5	19.0	20.6

* Question not asked of respondents aged 50 and over.

Table 16. Percent of parents who were asked about their use of contraceptives, and sexually transmitted diseases, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Doctor asked about use of contraceptives		Doctor asked about sexually transmitted diseases	
	Mothers	Fathers	Mothers	Fathers
Marital Status				
Married	35.9	10.7	18.9	20.3
Separated	38.8	11.7	28.5	25.3
Divorced	34.1	15.7	23.7	27.4
Widowed	41.1	25.0	35.1	20.2
Never married	54.9	21.8	38.5	29.9
Employment				
Working	35.6	10.8	20.5	20.3
Keeping house	40.2	18.2	22.5	31.1
Going to school	42.7	16.8	29.8	31.3
Something else	34.8	16.0	26.6	24.6
Health Coverage				
Private only	35.0	10.3	18.0	20.2
Medicaid	51.1	15.5	37.8	22.6
Medicare	25.4	13.2	16.4	18.8
Champus	49.5	15.7	32.7	31.4
No coverage	37.5	14.9	25.2	21.7
Region				
Northeast	31.1	9.6	18.2	17.6
Midwest	36.3	10.2	19.0	19.6
South	37.8	13.2	22.7	21.6
West	44.0	10.7	25.7	23.4
MSA				
Central city	42.9	13.4	27.3	22.2
Suburbs	35.3	10.5	20.3	21.9
Non-metro	35.6	10.0	17.3	16.2
Immigrant Status				
In U.S. <15 years	43.3	13.3	24.7	22.7
In U.S. >15 years	38.0	10.0	22.5	19.0
Born in the U.S.	37.0	11.1	21.3	20.6

Table 17. Percent of parents who were asked about amount of physical activity or exercise they got, and encouraged to begin or continue exercising, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Doctor asked about amount of physical activity/exercise		Doctor encouraged parent to begin exercising		Doctor encouraged parent to continue exercising	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
All parents	36.9	41.2	8.0	7.2	12.6	15.2
Age of parent						
18-24	35.2	31.9	9.3	5.4	10.4	3.6
25-29	35.2	36.9	6.9	2.2	9.4	10.9
30-34	36.5	38.5	6.9	4.6	11.1	12.9
35-39	36.9	42.4	8.0	7.8	14.4	13.7
40-44	38.0	44.7	9.2	11.1	15.2	17.7
45-49	40.3	46.3	8.9	8.8	16.9	21.7
50-54	41.3	42.0	9.6	6.4	17.6	23.0
Race/Ethnicity						
White	35.5	41.9	7.7	7.4	14.0	16.1
Black	37.3	37.1	7.4	6.5	10.1	10.2
Hispanic	45.4	40.4	10.6	7.3	8.4	10.1
Asian, Pacific Islander	28.5	39.4	6.3	5.1	4.7	19.4
American Indian	42.5	36.2	8.7	6.9	9.6	22.4
Education Level						
Grade school only	40.4	27.4	11.4	5.7	4.7	12.2
Some high school	29.1	26.3	7.8	6.1	7.2	9.9
High school graduate	34.0	34.7	8.2	6.6	10.5	10.4
Some college	39.0	43.2	6.8	6.4	14.3	16.1
College graduate	43.0	50.9	8.1	10.1	17.0	20.2
Some graduate school	46.3	60.6	8.6	7.9	23.0	25.3
Family Income						
Less than $10,000	34.8	27.6	8.9	7.3	8.5	6.2
$10,000-$19,999	36.9	28.9	8.2	5.3	10.2	18.0
$20,000-$34,999	34.9	34.4	9.4	4.6	11.2	9.9
$35,000-$49,999	38.6	42.9	8.8	8.9	15.7	12.4
$50,000 and more	40.8	55.0	7.7	10.0	18.8	23.5
Unknown	32.9	36.3	3.6	3.3	5.5	11.1
Welfare/Poverty Status						
Welfare poor	35.5	28.7	7.0	13.0	7.6	8.4
Non-welfare poor	35.5	28.2	10.8	4.3	7.8	10.5
Non-poor	37.4	42.5	8.1	7.6	14.1	15.8

Table 17. Percent of parents who were asked about amount of physical activity or exercise they got, and encouraged to begin or continue exercising, during their last health check-up, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Doctor asked about amount of physical activity/exercise		Doctor encouraged parent to begin exercising		Doctor encouraged parent to continue exercising	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Marital Status						
Married	36.8	41.1	7.7	7.6	13.2	15.3
Separated	36.4	47.1	5.7	4.1	12.7	11.9
Divorced	36.5	37.3	10.4	1.4	12.1	16.4
Widowed	47.9	58.3	15.3	1.9	5.5	33.7
Never married	35.6	37.9	8.4	0.0	8.9	3.5
Employment						
Working	37.2	41.3	7.8	7.1	13.2	15.3
Keeping house	36.6	44.9	8.0	7.5	11.8	21.5
Going to school	34.4	47.1	9.3	0.0	14.2	7.1
Something else	38.1	36.6	10.5	11.6	8.2	14.4
Health Coverage						
Private only	36.9	42.8	8.1	7.3	14.0	15.7
Medicaid	38.8	36.8	7.8	6.2	8.5	9.6
Medicare	46.4	49.2	5.8	29.9	15.1	13.8
Champus	45.7	48.5	9.1	4.5	14.4	25.8
No coverage	33.3	30.8	7.1	5.2	8.2	10.1
Region						
Northeast	35.1	41.5	6.1	7.0	12.3	12.8
Midwest	34.3	37.6	7.0	6.2	12.8	14.7
South	35.4	40.2	8.6	7.8	12.4	15.2
West	43.7	46.4	9.9	7.5	13.2	18.2
MSA						
Central city	41.7	42.8	9.4	7.4	12.2	12.3
Suburbs	36.8	44.4	6.7	8.5	13.4	17.4
Non-metro	31.1	32.0	8.8	3.8	11.5	13.2
Immigrant Status						
In U.S. <15 years	40.2	36.4	8.0	2.7	8.4	11.3
In U.S. >15 years	41.1	42.7	9.2	13.8	6.6	12.2
Born in the U.S.	36.4	41.5	7.9	7.2	13.3	15.6

Table 18. Estimated number and percent distribution of parents living with children under 18 years of age, by sex of parent and selected personal and family characteristics, United States, 1991

Characteristic	Mothers		Fathers	
	Number	Percent Distribution	Number	Percent Distribution
All parents	34,860,900	100.0%	27,588,000	100.0%
Age of parent				
18-24	3,581,480	10.3%	1,555,420	5.6%
25-29	6,040,960	17.3%	3,454,500	12.5%
30-34	8,398,470	24.1%	6,104,580	22.1%
35-39	7,909,460	22.7%	6,386,220	23.2%
40-44	5,649,130	16.2%	5,713,040	20.7%
45-49	2,442,640	7.0%	3,210,540	11.6%
50-54	838,726	2.4%	1,163,700	4.2%
Race/Ethnicity				
White	24,892,500	71.4%	21,099,400	76.5%
Black	4,516,510	13.0%	2,501,810	9.1%
Hispanic	4,157,400	11.9%	2,755,000	10.0%
Asian, Pacific Islander	823,998	2.4%	832,615	3.0%
American Indian	269,378	0.8%	241,278	0.9%
Education Level				
Grade school only	1,818,700	5.2%	1,353,400	4.9%
Some high school	4,167,030	12.0%	2,440,780	8.9%
High school graduate	14,405,500	41.3%	10,331,700	37.5%
Some college	7,939,110	22.8%	5,898,600	21.4%
College graduate	4,011,970	11.5%	4,151,120	15.1%
Some graduate school	2,518,520	7.2%	3,412,450	12.4%
Family Income				
Less than $10,000	3,215,450	9.2%	1,141,910	4.1%
$10,000-$19,999	5,274,730	15.1%	3,107,910	11.3%
$20,000-$34,999	8,089,790	23.2%	6,764,990	24.5%
$35,000-$49,999	6,317,200	18.1%	6,196,840	22.5%
$50,000 and more	7,326,090	21.0%	7,241,460	26.3%
Unknown	4,637,610	13.3%	3,134,890	11.4%
Welfare/Poverty Status				
Welfare poor	1,888,640	5.9%	350,052	1.3%
Non-welfare poor	3,079,170	9.6%	1,880,200	7.1%
Non-poor	27,166,400	84.5%	24,260,800	91.6%

* Excludes cases with unknown income or welfare status.

Table 18. Estimated number and percent distribution of parents living with children under 18 years of age, by sex of parent and selected personal and family characteristics, United States, 1991 *(Continued)*

Characteristic	Mothers		Fathers	
	Number	Percent Distribution	Number	Percent Distribution
Marital Status				
Married	27,070,000	77.7%	25,937,800	94.0%
Separated	1,681,310	4.8%	295,138	1.1%
Divorced	2,772,390	8.0%	570,484	2.1%
Widowed	552,156	1.6%	248,299	0.9%
Never married	2,784,980	8.0%	536,269	1.9%
Employment				
Working	20,390,900	58.5%	25,810,900	93.6%
Keeping house	12,605,300	36.2%	270,842	1.0%
Going to school	1,147,740	3.3%	438,035	1.6%
Something else	606,623	1.7%	982,380	3.6%
Health Coverage				
Private only	24,718,400	70.9%	22,329,100	80.9%
Medicaid	3,984,300	11.4%	743,700	2.7%
Medicare	106,862	0.3%	127,156	0.5%
Champus	846,682	2.4%	501,490	1.8%
No coverage	5,204,620	14.9%	3,886,530	14.1%
Region				
Northeast	6,637,930	19.0%	5,485,970	19.9%
Midwest	8,438,030	24.2%	6,824,480	24.7%
South	12,114,400	34.8%	8,861,370	32.1%
West	7,670,500	22.0%	6,416,190	23.3%
MSA				
Central city	9,733,490	27.9%	7,422,660	26.9%
Suburbs	17,273,100	49.6%	13,945,400	50.6%
Non-metro	7,854,250	22.5%	6,219,910	22.6%
Immigrant Status				
In U.S. <15 years	2,412,930	6.9%	1,872,970	6.8%
In U.S. >15 years	1,770,600	5.1%	1,439,030	5.2%
Born in the U.S.	30,677,300	88.0%	24,276,000	88.0%